The Candy Manufacturer

A Technical and Commercial Magazine for Manufacturing Confectioners Exclusively
Published by THE CANDY MANUFACTURER PUBLISHING CO., Stock Exchange Bldg., Chicago

Vol. II NOVEMBER, 1922 No. 10

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Pass The Candy Manufacturer around
After reading forward to:
Superintendent | Chemist
Purchasing Dept.
Sales Manager | Return to

Read wherever good candy is MADE

DELFT

The World's Best Food Gelatine

HAROLD A. SINCLAIR, 160 Broadway, NEW YORK

"Price is a relative term—Quality always a concrete fact"

DISTRIBUTORS:

W. G. AHERN
40 Court St., Boston, Mass.

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CALIFORNIA FOOD PRODUCTS COMPANY
949 E. Second St., Los Angeles, Cal.

W. P. DOWNEY
88 Grey Nun St., Montreal, Can.

STOCKS EVERYWHERE

Delft Gelatine at Old Prices Under New Tariff

In our recent advertising we said: "No tariff changes will curtail supplies, nor affect present reasonable prices."

We succeeded in convincing the tariff makers that it would have worked an injury to the gelatine consumers had the proposed radical increase on edible gelatine been adopted.

The tariff has been raised somewhat, but we have decided to absorb the difference. You can continue to buy Delft Gelatine at the prices that prevailed before the new tariff went into effect.

And Delft high standards will be maintained exactly as before.

Harold A. Sinclair

Members: National Confectioners' Association, Midland Club, Chicago Association of Commerce.

The Candy Manufacturer

Registered, U. S. Patent Office

"READ WHEREVER GOOD CANDY IS MADE"

A Specialized Technical and Commercial Magazine for Confectionery Superintendents, Purchasing Agents and Executives

Contents Copyrighted 1922, Earl R. Allured

PUBLISHED MONTHLY BY

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FRANK SOBEY

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DR. FRANK C. GEPHART, Consulting Chemist

FRED W. AMEND, Secretary Chicago Association Confectionery Superintendents

Vol. II **NOVEMBER, 1922** **No. 10**

PURPOSE

The purpose of THE CANDY MANUFACTURER is to provide a medium of constructive service and communication between manufacturing confectioners exclusively, a high-class specialized business magazine devoted to the problems and interests incident to the manufacture of confections and the management of a candy factory.

POLICY

THE CANDY MANUFACTURER, being a highly specialized publication, is edited in the interest of the executive, the purchasing agent, the chemist and the superintendent exclusively, and provides a medium for the free and frank discussion of manufacturing policies and problems, methods and materials.

The same corresponding policy applies to the advertising pages which are available only for a message directed to manufacturing confectioners and relative to a reputable product or service applicable to a candy factory.

The Candy Manufacturer believes in

A Technical Candy School with resident and extension courses for factory superintendents and journeymen candy makers.

Pure Food Legislation which enforces a quality standard for confectionery.

Rigid Inspection of candy factories to enforce sanitation and working conditions necessary for the production of a pure food product.

Maximum Production from each production unit of a candy factory and a clearing house of production records.

Uniform Method of cost finding and accounting.

An Annual Exposition of Confectioners' Supplies and equipment under direction of (not merely endorsed by) The National Confectioners' Association.

Entry as Second-class Matter applied for at the Postoffice at Chicago, Illinois, under the Act of March 3, 1879

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The Candy Manufacturer's Approved Advertising of

Confectioners' Machinery and Supplies

and Miscellaneous Advertising Directed to Manufacturing Confectioners'

POLICY: THE CANDY MANUFACTURER *is essentially a manufacturers' publication and therefore is a logical advertising medium only for confectioners' supplies and equipment. The advertising pages of* THE CANDY MANUFACTURER *are open only for messages regarding reputable products or propositions of which the manufacturers of confectionery and chocolate are logical buyers.*

This policy EXCLUDES advertising directed to the distributors of confectionery, the soda fountain and ice cream trade. The advertisements in THE CANDY MANUFACTURER *are presented herewith with our recommendation. The machinery equipment and supplies advertised in this magazine, to the best of our knowledge, possess merit worthy of your careful consideration.*

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To Candy Superintendents

Senneff's Big Three Candy Maker's Specialties are the foundation of the success of many well-known candy lines which are popular repeaters with jobbing and retail trade.

Senneff-Herr Products have given some of the foremost wholesale manufacturing confectioners a new conception of how to improve the eating and keeping qualities of their candies. At least be open to conviction and give ***Senneff's Big Three*** a fair trial—

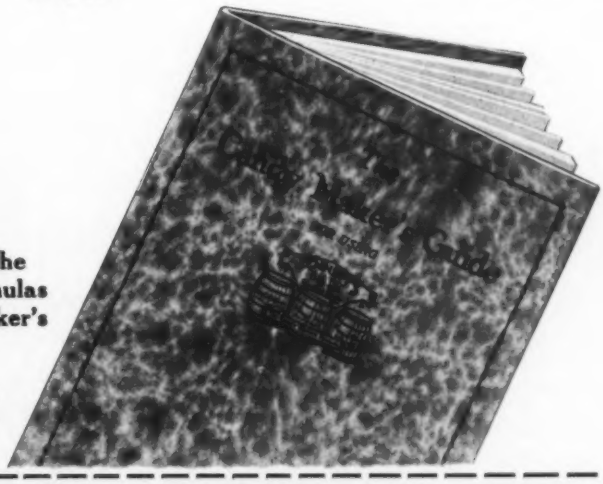
Quality Products for Quality Confectioners

Senneff-Herr's Big Three

Egg O Creme: A soft, snowy white, velvety, starch cast center cream, that ripens readily and holds moisture indefinitely.

X-L Cream Caramel Paste: Contains a large percentage of real, pure, sweet, rich cream, giving it a wonderful creamy flavor.

Nougat Whip: The product that is unequaled in making light, fluffy, Hand Roll Centers, Nougat Bars, etc.



Try out a few of the tested proven formulas in The Candy Maker's Guide—

Your copy will be mailed gratis, on request

SENNEFF-HERR COMPANY, Sterling, Ill.

You may send a copy of your **Candy Maker's Guide**—without obligation.

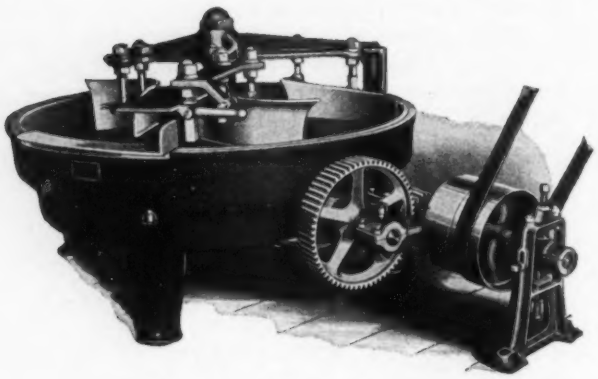
Name.....

Per.....

Address.....

"You can't beat 'em"

The Ball and Dayton Cream Beaters and Coolers



The Dayton Beater
and Cooler

References, detailed description and prices on request.

Fully protected by patents.

Beware of imitators and infringements.

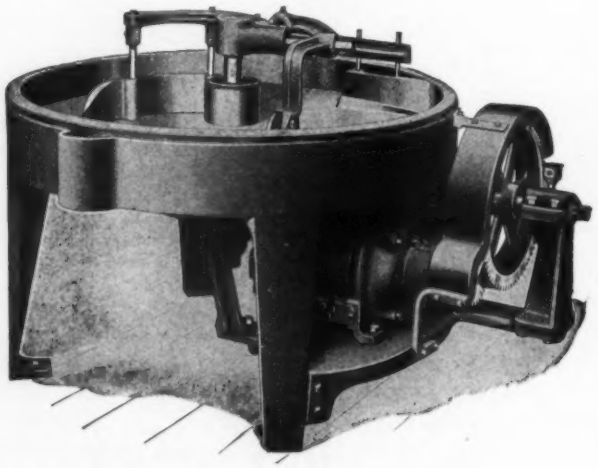
President Harris says: *"We cannot avoid competition, as it is inevitable at all times, but we can prepare ourselves to meet it, and the equipment for such preparation will not be the apparently easier method of cutting prices, but by attaining more efficiency in each department."*

The Ball and Dayton Beaters are proven time-and-money-savers while producing just the kind of work which the finest quality goods demand. The Answer: Lower costs and more profits.

The Ball Beater
and Cooler

The above illustration shows motor attached to machine with gear drive. This can be applied to either our 3, 4 or 5 foot Ball machines, also our 5 foot Dayton machines. Price upon application.

Notice the rigid and substantial construction of the motor attachment.



Send for descriptive literature on entire line giving sizes, capacities, horse-power required, speed, weights, details of construction and net prices.

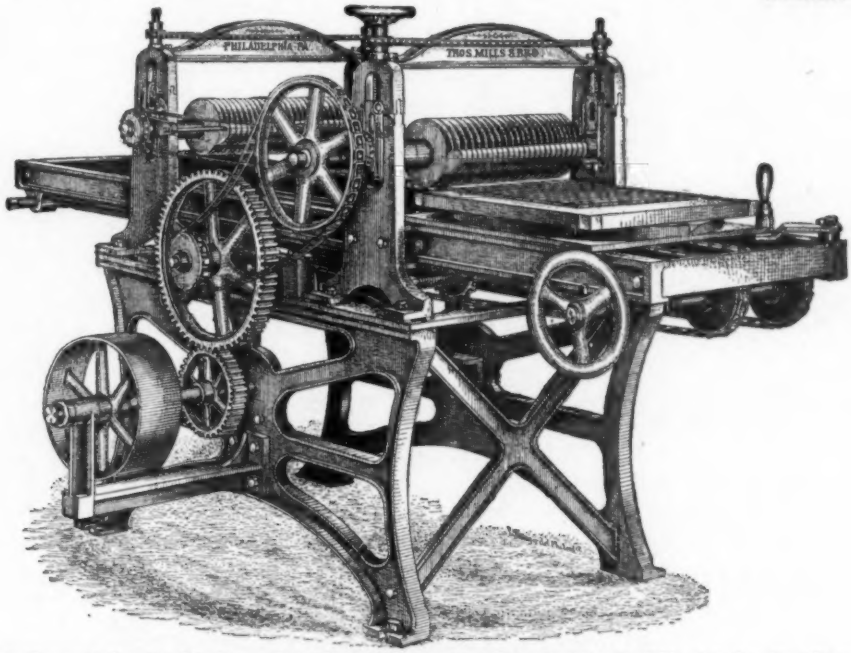
THE BALL CREAM BEATER CO.
DAYTON, OHIO

THOS. MILLS & BRO., Inc.

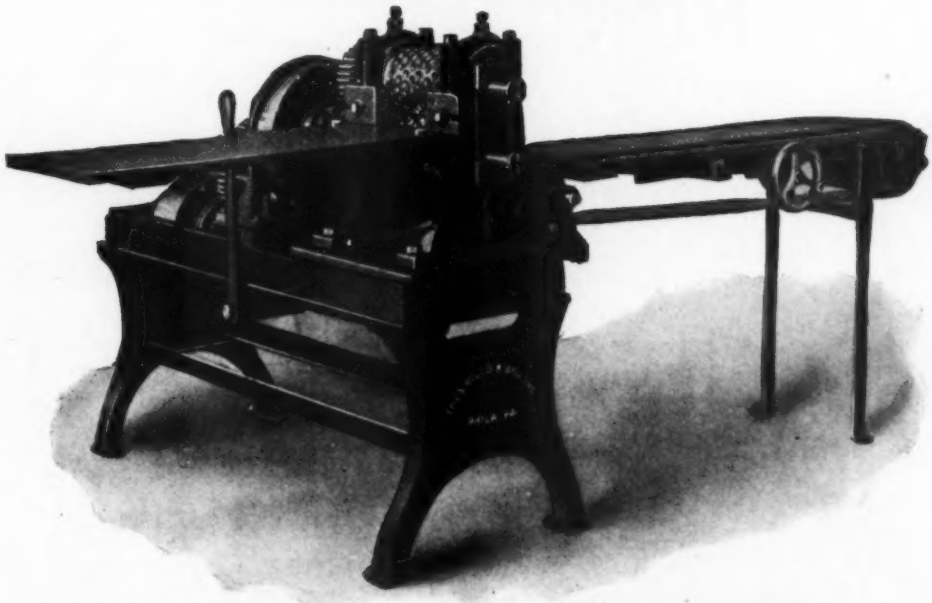
Established 1864

CONFECTIONERS' TOOLS AND MACHINERY

1301 to 1315 North Eighth St. **PHILADELPHIA, PA.**
STATION O



Automatic Caramel Cutting Machine—Cuts Both Ways in One Travel of the Bed, Used in Leading Factories for Caramels, Cocoanut Blocks, Etc., Send for Circular.



Large Power Drop Frame with Stand and Endless Belt Conveyor; Our Latest Type for Large Output and Heavy Duty.

Our Catalog "O" Should Be in the Hands of Every Factory Superintendent; Sent on Application. Please Mention "The Candy Manufacturer" It Helps.

Much Earlier than Ever Before

Space at the

National Confectionery Show

Which will be held

MAY 21st to 26th, 1923

at

Young's Million Dollar Pier

Atlantic City, N. J.

Has Been Taken

We strongly advise those concerns who intend exhibiting and who have not yet selected their space

to

ACT AT ONCE

EXPOSITIONS COMPANY OF AMERICA

Suite M-72, CONGRESS HOTEL
CHICAGO

How the Candy Manufacturer turned a Million Dollar Loss into a Million Dollar Profit

By reproducing the Ideal Day 365 days in the year

OUR ENGINEERS were called into consultation with one of the largest manufacturers of hard candies in this country. He had orders that had to be delivered and the hot, sultry summer weather made it impossible for him to operate.

It cost him just $15,000 for every day his plants were shut down, and he wanted to turn that loss into a profit. He wanted to operate his plant 365 days in the year.

Our engineers went over his New York plant. They recommended the proper equipment, and they GUARANTEED the results.

Were the results satisfactory?

The answer is found in the fact that he had us equip his western plant a few months later.

What we have done for this candy manufacturer, we have done for many others, and we can do the same for you.

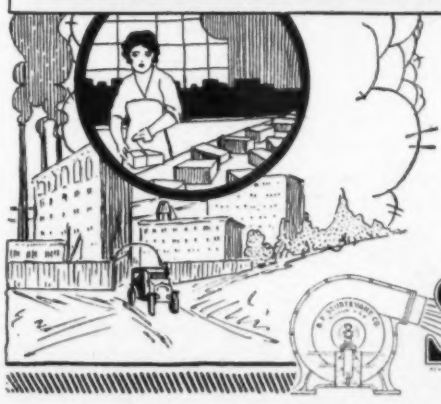
Pick out the ideal day for operating your factory and we will GUARANTEE to reproduce it 365 days in the year.

It will pay to investigate.

B. F. STURTEVANT CO.

Hyde Park, - - - - Boston

NOTE—The photo shown here is the Air Conditioned Packing Room of his western factory.



W. L. FLEISHER & CO., Inc.
NEW YORK CITY
Design and Install all
STURTEVANT-FLEISHER
Air Conditioning Systems

Sturtevant

PUTS AIR TO WORK

The Devine Superior Continuous Steam Vacuum Cooker

For Dryer, Whiter, Clearer and Highest Satin Finish Hard Candies

Will Cook to Perfection Straight Sugar or Any Mixture of Ingredients

Rear View of a Complete Unit. Simple to Operate. Capacity 200 lbs. per charge.

Constructed to give results in quality, quantity and economy in fuel and upkeep.

Eliminates pumping, transferring and graining—*No Cloudy Batches.*

A Machine for Saving Money and Time.

Detailed Information Upon Request.

J. P. DEVINE COMPANY

BUFFALO, N. Y.

Selling Agents: **Special Machine Company, 39 Courtlandt Street, New York City**

Devine Continuous Vacuum Cookers

GAS HEATED

Cooker furnished complete with two Portable Kettles, Swinging Vacuum Dome, Condenser and Motor-driven Vacuum Pump, two Gas Furnaces with Motor-operated Air Blower and Permanent Pipe Connection, all mounted on Continuous Cast Iron Base Plate, ready for gas, water and wiring connections.

Each Kettle alternately used as Melter and Vacuum Cooker, without transferring syrup, preventing grained and cloudy batches.

Capacity, 100 lbs. per charge.

SPECIAL MACHINE COMPANY

39 Cortlandt Street **NEW YORK CITY**

Selling Agents for J. P. DEVINE CO.

Chocolates are only as good as their Coatings

It's the **coating** that counts in candy-making.

The **coating** is the first thing the candy lover sees and tastes of your chocolates.

The COATING makes or breaks you with your public.

Runkels are making the coatings for leading quality brands. Runkels are ready to submit samples and prices without obligating you to buy.

Write

Runkel Brothers, Inc.

Manufacturers of
"The Cocoa with that Chocolaty Taste"

451 West 30th Street
NEW YORK

CHICAGO PHILADEPHIA

For Better Boxes That Cost Less

Write H & D TODAY—

WHETHER you are shipping **specialties** such as this Sykes & Thompson item or fancy **boxed candies,** you need shipping cases

1st—That will safeguard your products; keep them from crushing, keep out dust, dirt and moisture and deliver them FRESH.

2nd—That can be speedily packed and sealed and that will make a good appearance.

3rd—That **do not cost too much.**

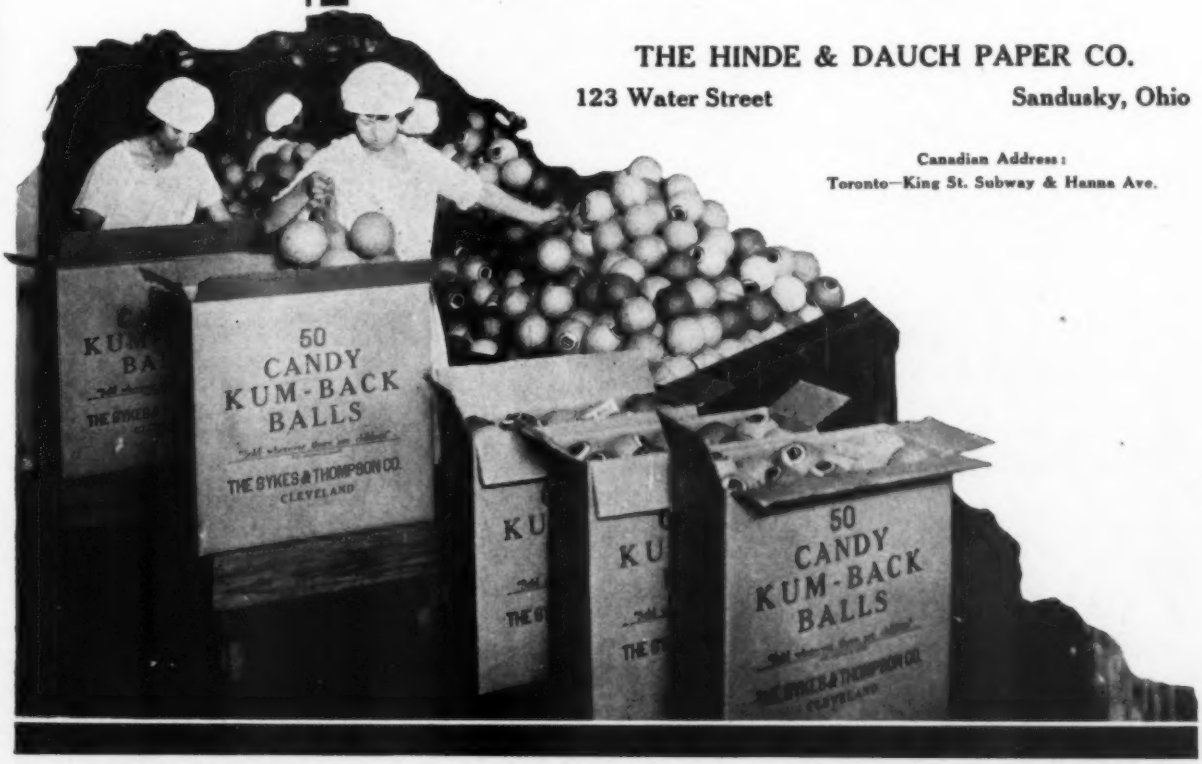
H. & D. Boxes meet all these requirements. They are perfect shipping containers that are at once more economical and more efficient. In use by thousands of big and little shippers.

Tell us your requirements and specifications and let us quote you prices. Or send us a sample shipment and let our service department design a box for it and send it to you for examination and testing. This is a free demonstration service that you are invited to use. Address

THE HINDE & DAUCH PAPER CO.

123 Water Street **Sandusky, Ohio**

Canadian Address:
Toronto—King St. Subway & Hanna Ave.



Essential Oils, Fruit Flavor Bases, Cumarin and Vanillin

Seasonable Offerings:

Oil Peppermint, Guaranteed Absolutely Pure and of Finest Flavor

Oil Lemon and Sweet Orange, F. B., Handpressed

of Unexcelled Quality

Hard Candy Flavors

APPLE	CURRANT, Red	PINEAPPLE
BANANA	GOOSEBERRY	RASPBERRY
BLACKBERRY	GRAPE	ROSE
CHERRY (with Pit Flavor)	HONEY	STRAWBERRY
CHERRY (without Pit Flavor)	LOGANBERRY	STRAWBERRY, Preserved
CHERRY, Wild	PEACH	VIOLET
CURRANT, Black	PEAR	

THE reception accorded to this new group, which we placed on the market only a short time ago, has been gratifying and supports all we claim for them. These flavors are of the highest concentration, have the delicious aroma of the fruit itself and have been manufactured with a special view to permanence and TO WITHSTAND CONSIDERABLE HEAT. In addition to the large amount of natural extractive matter from the fruits present, the Flavors contain sufficient Ethers, Esters, Vegetable Tinctures, etc., to provide the necessary strength and impart the special characteristics necessary and claimed for this group.

For all other kinds of confectionery, particularly cream work, the following groups have been successfully employed:

TRUE FRUIT AROMA ESSENCES

Extra Concentrated

which represent nothing but the extractive matter of SOUND, RIPE FRUIT; and our

FRITZBRO-AROMES

which are the IDEAL FLAVORS OF HIGHEST CONCENTRATION, based on Fruit Extractions and fortified with other harmless ingredients to accentuate the SPECIAL CHARACTERISTICS of the respective fruit.

With these lines, you can solve ANY PROBLEM of flavoring candies, of whatever kind they may be. Samples and further details will be cheerfully furnished upon application.

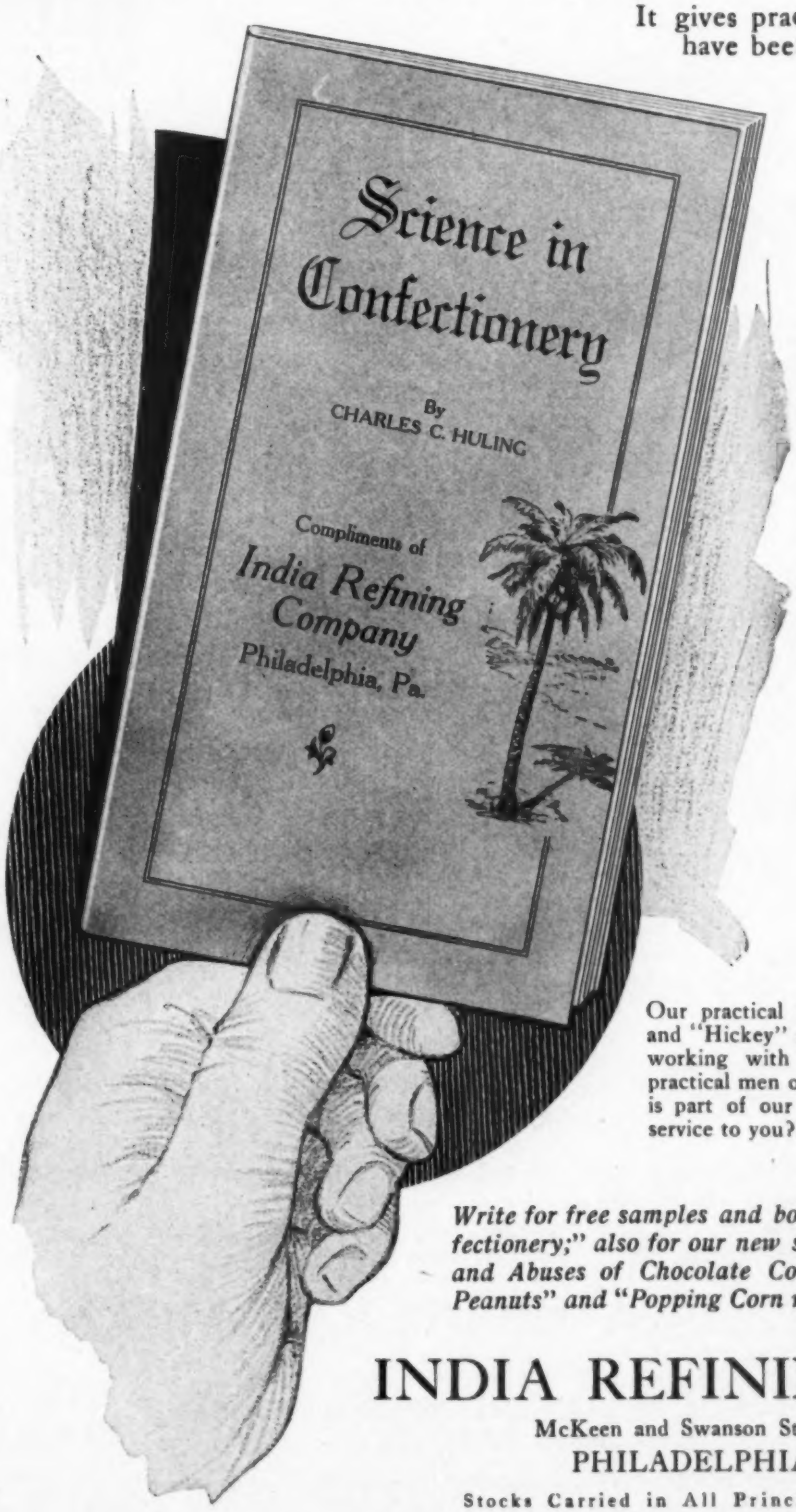
Fritzsche Brothers, Inc., New York

Chicago Branch: 33-35 West Kinzie Street

Send for this literature—

It gives practical recipes which have been tested and proven by successful confectioners.

It will help you make the best candy,—



So will

KOKOREKA

For Chocolate Coatings and Caramels

PLASTIKO

For Fillings

PARASUB

For Easter and Penny Goods

Our practical demonstrators "Armitage" and "Hickey" are in the field constantly, working with the superintendents and practical men of the candy factories. This is part of our service. Can we be of service to you?

Write for free samples and booklet—"Science in Confectionery;" also for our new special literature "Uses and Abuses of Chocolate Coating," "How to Salt Peanuts" and "Popping Corn with Ko-Nut."

INDIA REFINING CO.

McKeen and Swanson Streets
PHILADELPHIA

Stocks Carried in All Principal Cities

Quality Street

Number One-A-A-A

That's the "address" of Nucoa Products. That is where they were "born" and where they have been coming to you from for more than twenty-five years.

Nucoa Products

value their Quality Street address far more than could be put into money terms—and you may be sure the address plate will always be kept shining—shining so brightly that the manufacturer in quest of **Quality** can't miss No. 1 Quality Street. And you may be sure the "address" will never vary even One A.

Here's a Quality Butter for Your Every Need

NUCOA BUTTER, a hard butter for rich, satiny chocolate work, perfect caramels, nougat, taffies and all chewing candies.

NUCOLINE, a soft butter, for salting nuts—the true flavored, keep-sweet kind, that are money makers; also for slab dressing, popcorn confections, etc.

PLASTIC NUCOLINE, for layer caramels that literally melt in your mouth, and as a filler for delicate wafers.

Why experiment when you can get Quality and be sure? Samples of Nucoa Products gladly sent on request.

THE NUCOA BUTTER COMPANY

Refinery Sales Department

NUCOA BUILDING, 4th Avenue at 23rd Street
NEW YORK CITY

Complete warehouse stocks maintained at principal distributing centers.

Flavor Value

Value is not composed of a single element; mathematically speaking, it is a function of both price and quality; it can only be computed on the basis of price paid and quality received.

The wise buyer of flavoring ingredients confines his purchases rigidly to sources of supply which guarantee him the maximum return in value, the most economical co-ordination of price and quality.

Flavoring materials recommended by the House of Ungerer meet this requirement to the complete satisfaction of the most exacting purchaser.

We urge exhaustive test of our

OZONE-VANILLIN

OIL PEPPERMINT

OIL WINTERGREEN

OIL ORANGE ITALIAN

OIL ORANGE WEST INDIAN

OIL LEMON SUPERFINE

SIMILE FRUIT ESSENCES

NATURAL FRUIT FLAVORS

CONFECTIONERS' FLORAL FLAVORS

"Our Quality Is Always Higher Than Our Price"

UNGERER & CO., New York

124 West Nineteenth Street

CHICAGO
189 No. Clark Street

PARIS, FRANCE
11 Rue Vezelay

The Mark of Quality Cocoanut Products

Honest Quality is Our Only Policy

Quality that is **Honest** means the very highest products that can be produced—not the best Quality for **a** price, but the best quality at **any price.**

Quality that is Honest means the same top mark always—never better than the last—never less good—always the **Best**—always the same.

AMERICAN COCOANUT BUTTERS

have built and maintained their quarter of a century reputation on **Honest Quality**—that's why from the Tropics to the Antipodes products made with American Cocoanut Butters—are the products that repeat—the products that build reputation and bank accounts.

If you have been using American Cocoanut Butters just drop us a line saying "The same as last." If you would like samples, your request will be promptly honored.

THE BUTTERS OF QUALITY

ACOMO

For chocolate work, Caramels, Nougats, Chews, Fudges and Butter Scotch.

ACOMINE

For Kisses, Salting Nuts, Slab Dressing, Pop Corn Confections and Fillers for Hard Candies.

MAROKO

For Layer Caramels or Nougats and as Fillers for delicate wafers.

American Cocoanut Butter Company

CHICAGO
127 N. Dearborn St.

NEW YORK
297 Fourth Avenue

To insure prompt service, complete warehouse stocks are maintained at the principal distributing centers

Von Dannenberg & Pick

82-92 Beaver St. 129 Pearl St.

NEW YORK CITY

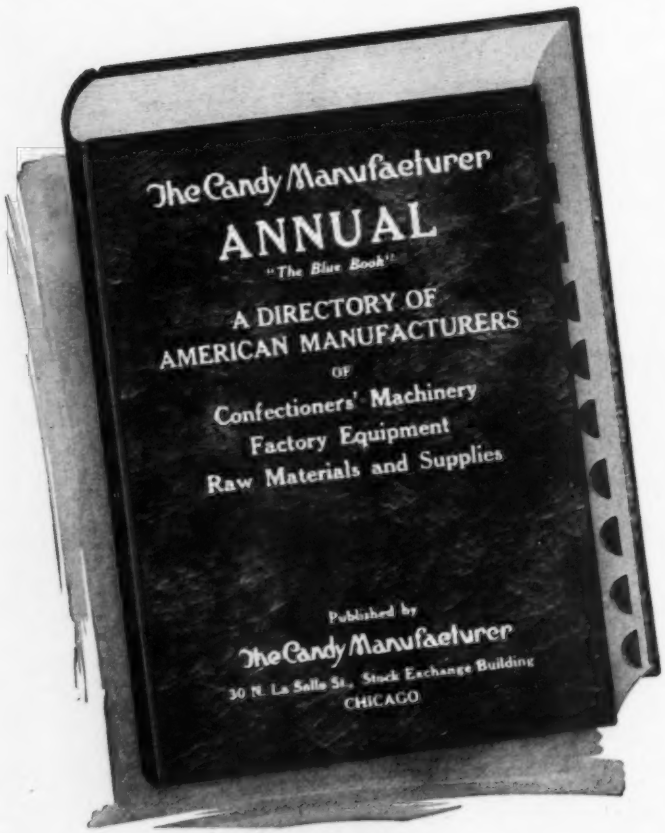
BROKERS

In All Grades of

Cocoa Beans, Cocoa Butter and Cocoa Products

Where to Buy Confectioners' Supplies and Equipment

While this book is being compiled we would be glad to receive inquiries from our subscribers regarding sources of supply or any problem in purchasing. All information in our Buyer's Directory files is at your disposal.



CONTENTS:

In addition to the Directory feature The Blue Book will contain:

An index of all associations, national, territorial, state and local within the confectionery industry, and the national associations in the allied industries.

Rulings, regulations and legislative situation affecting confectionery supplies and products. Statistical information on the industry. Reports and surveys of special value to the purchasing and sales departments.

A review of books, periodicals and technical literature on candy factory management, methods and materials and the industry in general.

A directory of trade names.

The data for this candy manufacturers' buying guide is being compiled and the book will be issued later in the year. In the meantime our subscribers have access to all information in our directory files. We will be glad to receive your inquiries regarding sources of supply.

The Directory Section

of the Blue Book will contain the following classifications:

Directory of manufacturers of chocolate and candy machinery, refrigerating machinery, factory equipment, tools and utensils.

Directory of manufacturers and importers of confectioner's colors, flavors, essential oils, gums, extracts and essences, gelatines, starch, corn syrup, molasses, honey, milk products and all raw materials.

Directory of manufacturers of chocolate coatings, liquors, and cocoa butter; cocoanut oils, butters and cocoa butter substitutes.

Directory of brokers and importers in cocoa beans, cocoanut, fruits, nuts, etc.

Directory of sugar brokers and refiners.

Directory of peanut brokers and growers and manufacturers of peanut machinery.

Directory of manufacturers of paper boxes, fancy, set-up and folding; candy containers—tin, glass, redwood, baskets, leather, etc.

Directory of manufacturers of paper box liners, laces, bonbon cups, seals, trimmings, etc., box papers and box tops.

Directory of manufacturers of box wraps, bar wraps, foils, waxed papers, dipping papers, bags and paper specialties.

Directory of manufacturers of shipping containers: corrugated, solid fibre and wood boxes, and pails.

Directory of lithographers and manufacturers of "Dealer Helps" and advertising specialties, window trims, store signs, display cards, hangers, premiums, souvenirs, etc., etc.

The Candy Manufacturer Publishing Co.

30 N. La Salle St., Stock Exchange Bldg.
CHICAGO

ATLANTIC
—the super-clarified
GELATINE

"Purest and Best—
It Stands the Test"

THE superior clarity and purity of Atlantic has not been attained through chance. Beginning with raw materials finer than those ordinarily entering into the manufacture of gelatine, we have upheld this standard without deviation.

Yet, realizing that fine raw material alone will not insure the finest finished product, we set out, more than two years ago, to achieve what is now an accomplished fact—a gelatine so good—so pure—so clear—so uniform in quality, that only the word "super-clarified" can properly describe it.

Pure Food Legislation Cannot Stop Atlantic

The high, uniform quality of Atlantic is to your advantage. There is no need to adjust your selection and shipment of gelatine, owing to pure food legislation. Atlantic passes the pure food requirements of any state in the Union—not even excepting Pennsylvania and North Dakota.

ATLANTIC GELATINE COMPANY
Woburn, Mass.

Make Us Prove Its Merits

We Offer a Free Trial

We know that, grade for grade, Atlantic, the super-clarified gelatine, costs less and accomplishes more than other makes of gelatine. But—if there's any risk in proving this to your own satisfaction, we want to assume that risk.

Send today for a barrel of Atlantic Gelatine. Use five, ten, or even fifteen pounds. If, after a fair test, you decide that Atlantic isn't all we claim, send back the unused portion and we'll pay the freight both ways.

Write Home Office
or one of the following branches if nearer

Branches

NEW YORK CITY
1081 Woolworth Building

CHICAGO
Suite 510, 118 North La Salle Street

BALTIMORE
Room 1012, Union Trust Building

LOS ANGELES
264 South Carondelet St.

Announcing

A beautiful new line of

Mottoes about Mother

with unlimited merchandising possibilities for stimulating the sale of

CANDIES *for* MOTHER

Let us tell you how manufacturing confectioners have made our mottoes the nucleus for successful sales campaigns.

Investigate now — before you decide on packages and sales plans for 1923.

THE NATHAN M. STONE CO.
2003-2024 North Major Avenue . Chicago

This window trim will help every retailer who displays it in his window sell more candy. You should distribute this trim just as you did the Candy Day and Thanksgiving Day trims, in the mail or by packing it with orders. If you are a manufacturer selling direct to the retailer mail out the trim to the retailer or enclose it with your shipments. If you are a manufacturer selling to jobbers only enclose the trim in shipments which go direct to the retailer without being unpacked. Distributing this trim will help you sell more candy and help put over the slogan at Christmas time. Order from the National Confectioners' Association, Publicity Department, 208 N. Broadway, St. Louis, Mo. Price of Christmas Window Strips with Envelopes, 7c each; without Envelopes, 6c each. The above prices include packing charge.

How the Manufacturer Can Help the Jobber

by V. L. Price

Director of Publicity, National Confectioners' Association

Exclusively for The Candy Manufacturer

IF any of you could sit in the office of the Publicity Department of the National Confectioners' Association and read the correspondence from manufacturers, jobbers and retailers all over the country, you would realize that there is a vast interest in the work that the Publicity Department is doing in the introduction of the candy slogan and the creating of more intensive buying on holidays that are not now established as candy-buying days.

The Problem

It is simple enough for a manufacturer selling to the retail trade to distribute the advertising matter furnished by the Association to the retailer, but the real big problem is how can the manufacturer furnish the jobber with this advertising matter without cost and enable the jobber to reach out to his retailers. The trouble has been that a willing manufacturer is imposed upon. He is asked by his jobber to furnish all the advertising matter that the jobber needs, and this is not right.

The jobber buys from various manufacturers and therefore he should divide his requests amongst the manufacturers from which he buys rather than to throw the whole burden upon one manufacturer. It is appreciated that one manufacturer cannot supply the jobber with all the different advertising matter that he may want and yet, one of the most essential things to bring about the promotion of more candy-buying days and the distribution of the slogan is for the manufacturer to help the jobber and furnish him with advertising matter.

The Remedy

Our idea of how this should be done is that each individual manufacturer selling to the jobbing trade should furnish the jobbers with a reasonable amount of advertising matter and let it be understood that advertising matter of similar nature can be secured by the jobber from other manufacturers from whom he buys, and it should be very frankly stated that one manufacturer cannot afford to furnish all of the advertising matter, that the expense should be divided in proper proportion amongst them.

The interest of the jobber in the Publicity Department's plans is very keen. He shows that he appreciates the advantages to him and to the retailer that he sells and he wants to help, but he finds himself handicapped by inability to purchase and also inability to secure the advertising matter of the Association.

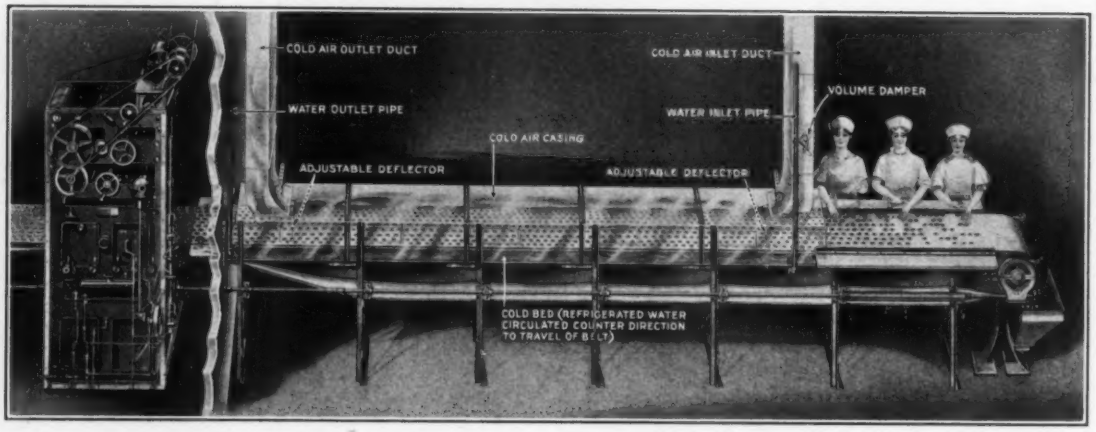
Of course, some might claim that the jobber ought to purchase his own advertising matter, but, fundamentally, the whole plan should be carried out by the manufacturer so far as the expense of it is concerned, because the jobber after all is simply a distributor of the manufacturer's product, and any general benefits that come through the work of the Association will reflect itself to the manufacturer, though it does, of course, benefit the jobber and retailer.

(*Continued on page 45*)

The "Coldbed" Chocolate Drying and Packing Table

Directly Connected to Enrober

Patents Pending



FROM THE ENROBER TO THE PACKER WITHOUT ANY HANDLING

The Enrober delivers its product directly to the belt on the COLDBED Table and, after traveling a distance of 25 or 30 feet in six or seven minutes, the goods have become properly set and chilled, ready to pack. The gloss is unsurpassed and the bottoms have the same fine finish as the top. Packing is done directly from the table.

In operation, the carrier belt travels in immediate contact with a hollow metal table, through which refrigerated water is constantly circulated, so that the bottoms of the chocolates are properly cooled and set. At the same time refrigerated air is circulated through the surrounding casing in direction opposite to the travel of the belt. The air is constantly recirculated in a closed circuit and can be maintained at a much lower temperature than the surrounding atmosphere of the room, securing greater efficiency without discomfort to the operators.

By regulating the flow of the water a perfect relation can be maintained between the temperatures above and below the material.

Perfect results are obtained in such a simple, practical, common sense way that the method will be instantly appreciated by every practical man. With the "COLD-BED" Packing Table there is no intricate machinery. No mechanical parts to get out of order. It is foolproof.

The entire equipment takes but little floor space. It is only twenty inches wide and thirty feet long, including the packing space for six operators. The table being made up in sections, it can be lengthened or shortened at will, so that it can be adapted to a restricted space or to a greater speed of the enrober.

The "COLDBED" Table is much less expensive in first cost than other methods and also in cost of erection.

The goods having been properly chilled throughout, **retain their color and their gloss** without any deterioration after packing.

Repeat orders show satisfied customers. (WRITE FOR BULLETIN CB-140)

INCREASED PRODUCTION ***REDUCED COST*** ***IMPROVED QUALITY***

Also Manufacturers of

The Bentz Air Conditioning Apparatus

The "Chillblast" Refrigerating System
(Patented)

The Bentz Drying Methods for Starch Rooms

BENTZ ENGINEERING CORPORATION

Main Office: 90 West Street, New York *Factory:* Newark, New Jersey

EDITORIAL

"Candy Day" vs. "Sweetest Day"

One of the biggest local Candy Day successes which have been reported this year comes from Cleveland where retail sales on an average scored an increase of approximately 300 to 400 per cent over the normal Saturday sales at this season. It is very significant that there was no mention of "Candy Day" in the whole campaign, but "The Sweetest Day" was the nucleus of the movement. In face of the results obtained, the candy industry may well reconsider seriously the advisability of making a concentrated effort to popularize and establish a national "Sweetest Day" instead of "Candy Day." Space will not permit a complete story of the Cleveland campaign in this issue, but it was a huge success and is a great credit to the Sweetest Day Committee, of which C. C. Hartzell, sales manager, Wm. Hardie Company, was chairman.

In the first place the Sweetest Day idea was sold to the newspaper editors. The campaign received the wholehearted co-operation of the daily press because there is something constructive about the Sweetest Day idea—it lends itself to possibilities of development which Candy Day could never do because of its tinge of commercialism.

Quoting from the Cleveland Plain Dealer: "There is something lofty about the purpose of the Sweetest Day—it is an occasion for happiness and thoughtfulness to dominate over the hustle and bustle of our everyday responsibilities which are so all-absorbing. Therefore, the 'Sweetest Day in the year' has an excuse for being on our calendar."

The logic and sincerity of the idea took hold and found ready response. The Women's Club presented the Humane Society with 300 boxes of candy. The advertising club gave 2,500 boxes to newsboys. Jimmy Hussey, the star at Loew's Theatre gave away 3,000 boxes (furnished by the Sweetest Day Committee) to needy ones of the city. The Salvation Army and thirty-three charitable institutions were supplied with candy by the committee and the spirit of happiness seemed to saturate the city on October 14th. L. E. Gruber of Crane's broadcasted a speech on the Sweetest Day.

In the words of Mr. Hartzell: "The sentiment back of *The Sweetest Day* will carry it forward each year to greater success and if the dealer, jobber and manufacturer will but take advantage of what this day offers him it will be a big success for all."

Eliminate Excess Baggage

Another angle to the subject of "Competition at a Profit" is that of standardization of products and processes and the elimination of excess baggage in our industry.

A careful analysis of the production program in many candy factories would reveal a wanton waste of energy and time necessitated by a great variety of goods—none of which could possibly be produced at a low cost figure because of the absence of standardization in materials and methods necessary to quantity production and minimum costs.

A standardized cost finding system throughout the industry will not standardize costs unless production is standardized.

(To be continued.)

Errata

The definition of dextrine (in the center box on page 29, October issue) should read "roasted starch" instead of "washed starch."

Statement No. 4 under "Remember these facts about gelatin" (top of page 43, October issue) should read "The heat value of gelatin protein is within 2.9 per cent (instead of 29 per cent) as much as meat protein."

About That Waxed Paper Article

Our readers are due an explanation in regard to the omission of the article on wax papers which was scheduled for our October issue.

In July of this year arrangements were made with the author to prepare the article for our September issue—the Buyer's Number of THE CANDY MANUFACTURER. The manuscript arrived about the fifteenth of August, the type matter set up, but because of its technical nature and reference to the comparative merits of glassine and waxed paper we preferred to announce the subject only in our September issue and to check up the statements and discuss the matter personally with the author before publishing it. In September the author sent copies of the manuscript to two other publications (without our knowledge) both of which published the article in their following issue.

Under these circumstances, we will postpone the subject indefinitely and in the meantime will continue our investigations on this subject of waxed papers and glassines as a basis for an article to appear exclusively in one of our subsequent issues. All the technical and scientific articles on our editorial schedule appear *exclusively* in THE CANDY MANUFACTURER. We do not use the syndicated material.

Leakage and Bursting of Chocolate Coated Candies

by Dr. A. P. Bryant

Consulting Chemist, National Confectioners' Association

In case of spoiled centers, the trouble may be caused by micro-organisms and gas-forming bacteria in your gelatin and egg albumen. Or your starch may be infected. Or your kettles and utensils may not have been clean (always steam and sterilize your utensils free from infected syrup). Or your goods may contain excessive moisture permitting the growth of wild yeasts, which cause candy to sour.

These various conditions and their remedies are discussed in a very interesting manner in this article. Dr. Bryant has been consulting chemist for the National Confectioners' Association for a period of approximately fifteen years, during which time a great many manufacturing problems of our industry have come to his attention. Dr. Bryant's contributions to this department are especially valuable and practical because of this experience.

Exclusively for The Candy Manufacturer

THERE is experienced every year a certain amount of trouble from bursting or leakage of chocolate creams. This may be small in amount or may assume such proportions as to be very serious on account of return of goods from customers, which must be worked over again in cheaper grades of candy and on account of the undesirable publicity.

Mechancial Causes

The causes for this leakage may be either mechanical or bacteriological. The former is due to incomplete coating of the chocolate confections resulting in very thin spots through which the interior breaks out, or pin-hole openings which likewise permit leakage. Leakage of this sort usually manifests itself soon enough to be caught in the factory and is remedied with comparative ease.

Bacteriological Causes

The more common and troublesome kind of leakage is that caused by micro-organisms. Troubles of this sort manifest themselves in at least three ways:

(1) Leakage because of the action of micro-organisms which invert the sugar so that the thin syrup breaks through the chocolate coating at some point.

(2) Leakage due to bursting of the chocolate coating because of presence of gas on the inside, produced by gas-forming organisms.

(3) Honey-combing of the interior without bursting of the inside coating.

In the majority of instances trouble is experienced either from the second or third of these causes. A considerable number of spoiled confections have been examined by the writer in which gas pockets have formed on the inside of the candy where carbon dioxide had been produced in quantities sufficient to cause pressure enough to break the coating. After the coating has once broken, other infection may take place by wild yeasts or organisms causing inversion of the sugar and the final result is that the candy is rendered unsalable, both because of the taste and appearance.

It is not infrequent to find chocolate candies which, while appearing all right, are honey-combed on the inside due to the action of yeasts, which causes small gas pockets, but not sufficient to burst the coating. As a general thing these have a pronounced yeasty or sour smell, perhaps not enough to render them inedible, but sufficient to detract very materially from their edibility. In fact, the causes for troubles of this sort we find will usually be found in one of three things, namely, impure gelatine, impure egg albumen, or lack of sufficient care in handling of the candy in the factory.

Gelatine, through the nature of the material, is very prone to harbor micro-organisms, and while these may not be sufficient to cause trouble in a product which is made out of the best material and with the best care, it frequently happens that a gelatine is sold for candy purposes which has not been made out of the best material or with the greatest care.

In this case the number of bacteria per gram will run into the hundreds of thousands, and it becomes very difficult to kill all of the germ life in candy containing this gelatine, and when it is finally cast and coated there is still sufficient moisture present to permit growth under the chocolate coating. The same comments apply with even more force to egg albumen, which frequently contains millions of micro-organisms or their spores (seeds) per gram.

Other Causes

Attention has been called in a previous article of this series to the necessity of utmost care in cleansing utensils and apparatus in the candy factory. If this is not done micro-organisms may start to grow and infect the candy passing through the apparatus or contained in the tub, etc.

In one instance the tubs were apparently clean, but it was found that a small amount of thin, sugary syrup was left adhering to the sides which soured during the night and infected the fondant the next day. In this case steaming of the utensils the first thing in the morning was recommended.

In several instances it has been found that moulding starch had become infected and trouble is communicated from batch to batch, even though utensils and apparatus had been thoroughly cleaned. In such a case it becomes necessary to either heat the starch to 180° for several hours, and still better, to repeat this on two or three successive days, or to use the starch in some other class of goods not easily infected. It is not difficult to kill the few straggling micro-organisms which may be present in the sugar and corn syrup, because these materials are cooked to a high temperature, and there are but very few if any organisms to be killed.

The difficult part of the problem is to sterilize the gelatine or egg albumen, and inasmuch as this cannot be done, by heating to a high temperature, without destroying to a considerable extent the thickening properties of the gelatine or cooking the egg albumen, it is almost impossible to make sure that the organisms contained in these materials have been killed. For this reason it becomes a matter of great importance to purchase only the best products and to operate with greatest care.

For example, a man once remarked that egg albumen acquired an offensive odor when left to dissolve over night. This was due to the rapid growth of the organisms in the water solution, which would soon make the best gelatine or albumen unsatisfactory. Gelatine and egg albumen should be put to soak only long enough before use to make sure they are thoroughly dissolved.

It is possible to make marshmallows and all sorts of cream centers that will not spoil, and it naturally is the desire of every candy maker to attain this result. As mentioned above the chief causes of trouble undoubtedly are the small amounts of gelatine and albumen which are used, and it should be possible with care to so manipulate the patches as to have no trouble from these. There is, however, one other possible source of trouble and that is excess moisture in the cream centers, which permits a growth of wild yeasts and other organisms and may cause souring of the candy. This can be obviated either by slightly reducing the amount of moisture or by greater care in the matter of sterilizing utensils, etc., before use.

In conclsion we may say that in the candy factory, as in many other industries, extreme watchfulness and care pays in the long run because it results in the practical elimination of spoilage in the finished candies.

New Book on Gelatin by Dr. Bogue

Chemistry and Technology of Gelatin is the title of a new book by Dr. Robert H. Bogue. The book covers fully the chemical and theoretical aspects of the subject and also the manufacture, testing, chemical analysis and valuation of glue and gelatin, as well as their uses and applications.

Dr. Bogue is well known to our readers through his articles on Gelatin.

The following advertising copy is being used in a membership campaign to retail confectioners by the Candygram Association. The success of this movement, whereby candy can be sent by telegraph, will be reflected to the good of every branch of the industry:

The CANDY TELEGRAPH SERVICE offers more opportunity for Candy Retailers to increase their sales and prestige than any plan ever before conceived.

The slogan "Send a Candygram" is unsurpassed in the whole category of slogans—it is clear, concise, suggestive of immediate action, truly psychological, stimulating and creating tangible sales results.

The florists have made a wonderful success with their slogan and Telegraph Delivery Service, but this industry should easily multiply their success by 10.

Sending and receiving "Candygrams" is so simple a child can do it—nothing at all complicated—all a Candy dealer need do is to apply for membership and the Association will guide his every footstep from that time on, guaranteeing full justice and satisfaction to everyone.

MEMBERSHIP COSTS BUT $5.00—no dues or guarantees—and the Association spends the whole fee in equipping the member with Signs (50) and complete blanks to easily handle all transactions.

The Candy Retailer who is not a member of this Service will soon find himself under a big handicap.

MANUFACTURERS and JOBBERS can effectively serve their own best interests by co-operating in this movement.

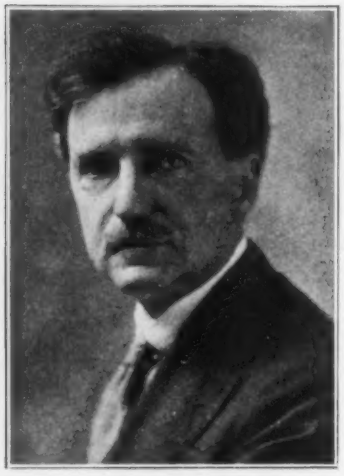
Let us send you the Candygram booklet and further information.

Address all communications to Secretary

CANDYGRAM ASSOCIATION,

1627 Marquette Bldg. Chicago, Illinois.

Relative Sweetness of Invert Sugar



W. W. SKINNER

A very interesting article based on exhaustive tests made by the Bureau of Chemistry to determine the relative sweetness of invert sugar compared to ordinary sugar syrups.

by W. W. SKINNER

Assistant Chief, Bureau of Chemistry
U. S. Dep't of Agriculture

and

J. W. SALE

Chemist in Charge Water and Beverage Laboratory, U. S. Bureau of Chemistry

J. W. SALE

ALTHOUGH it is commonly believed that sugar may be conserved by inverting it, experiments described in this paper show that if sucrose is assigned a sweetening value of 100, the sweetening value of invert sugar is only 85. Since 100 units of sucrose by inversion become 105 units of invert sugar, the net loss in sweetening power by the inversion of 100 units of sucrose is about 11 units. For some purposes, such as in the manufacture of candy and certain bottlers' syrups, or concentrates from which bottler's syrups are prepared, it may be advantageous to use a syrup which has been partly inverted because it does not crystallize so easily as an ordinary sugar syrup, thus permitting the use of a denser and therefore a better keeping syrup.

Invert sugar syrup in which the sucrose, or ordinary sugar, has been almost completely inverted can be prepared so that it is practically devoid of flavor, provided less acid is employed than is ordinarily recommended and the time of heating is reduced to a minimum. The amount of acid recommended in the preparation of a practically flavorless and colorless invert syrup is 0.013 per cent of weight of C. P. hydrochloric acid (37 per cent) based on the weight of sugar and water taken. Boiling for 20 minutes with this amount of acid will be sufficient to invert practically all of the sucrose; 0.021 per cent by weight of tartaric acid crystals (99.5 per cent) caused an inversion of 96 per cent when the solution was boiled 40 minutes. At the end of 20 minutes only 67 per cent of the sucrose (ordinary sugar) was inverted. These data were obtained on sugar solutions made by boiling equal weights of sugar and water. The syrup obtained in this way will be reduced in volume and have a density of about 30° B'. When less water is used to dissolve the sugar, the temperature at which the solution boils will be higher and the color and flavor will be increased.

Invert sugar syrups inverted with hydrochloric and tartaric acids, respectively, were practically without color or flavor, but gave a slightly unpleasant harsh sensation, which, however, was not produced by the finished beverage.

Invertase vs. Acid As Inverting Agent

Invert syrup prepared with invertase and concentrated by boiling under reduced pressure was practically colorless, possessed only a slight candy flavor, and was remarkably smooth when taken in the mouth. This syrup was therefore superior to the invert syrups prepared with acid. Since invertase is now obtainable in commercial quantities, this method of preparing invert syrup is recommended. Invert syrup having a density of 42° Be'., prepared with invertase, will contain approximately 0.001 per cent of added protein nitrogen.

Is Sugar Conserved by Inversion?

Information to the effect that sugar may be conserved by the process of inversion has been widely disseminated in trade and other publications during the past two or three years. As a result, the Bureau of Chemistry has received many inquiries for specific information on the subject. It is commonly stated that a net increase in sweetening power of 30 per cent is gained by the conversion of sucrose into invert sugar. For this reason the use of invert sugar syrup in the manufacture of bottled sodas, ice cream, etc., has been advocated, and there is no doubt that large quantities of it have been used by bottlers in the belief that sugar was thus be-

ing conserved. The question of the sweetness of invert sugar as compared with that of sucrose or ordinary sugar, therefore, is a matter of some commercial importance and of much scientific interest.

As it seemed that a difference of 30 per cent in the sweetening power of two sugar solutions should be detected with certainty by anyone with a normal sense of taste, some experiments were undertaken to test the validity of the claims for the sweetness of invert sugar. The chemist who is accustomed to proceed along exact analytical lines usually accepts with reluctance conclusions based on a series of tests which depend upon the sense of taste, unsupported by other confirmatory data. Nevertheless, successful experiments along this line have been recorded by chemists, and more particularly by psychologists who have developed standard psychophysical procedures for the determination of stimulus limen, difference limen, etc. For example, Richards, who worked with supraliminal solutions, determined when a given quantity of acid was neutralized by alkali so successfully that the average amount of acid found in six tests was 99.9 per cent of the amount actually present. The greatest variation from the average was 1 per cent. He stated that in this method of analysis a degree of accuracy exceeding some which are seriously applied as quantitatively useful was reached. Richards' work on acids, as well as that of Corin, of Kahlenberg, of Kastle, and of Crozier, was made the object of further study by Gibson and Hartman, who applied the stimulus limen as a criterion of the sapidity of certain acids, and used a standard psychophysical procedure. While the sense of taste and the sense of smell receive little consideration in the average analytical chemical laboratory, they are employed by manufacturers of foods, flavors, and perfumes in obtaining fairly accurate comparative data. The taste and aroma of vanilla and of lemon extracts, of bottled ginger ale, of coffee, of tea, and of many other products, largely determine the quality and the price at which they are sold, irrespective of any quantitative chemical data which may be obtained.

In some previous experiments made in the Water and Beverage Laboratory, the stimulus limens of four chemically pure sugars were obtained and the relative sweetness calculated, with the following results: Sucrose = 100; dextrose = 50; levulose = 150; maltose = 60. Paul compared the sweetness of several sugars with that of sucrose. His data, recalculated to a basis of sucrose = 100, are as follows: Dextrose = 52; levulose = 103; lactose = 28.

The Inversion of Sucrose

When 342.236 (= molecular weight) units of sucrose or ordinary sugar are inverted, 180.126 units of dextrose and 180.126 units of levulose are obtained theoretically. The mixture of dextrose and levulose is known as invert sugar. Since 342.236 units of ordinary sugar produce 360.252 (molecular weight) units of invert sugar, there is a gain in actual weight of sugar of a little over 5 per cent

$$\left(\frac{360.252}{342.236} = 1.0526\right).$$

If sucrose = 100, dextrose = 50, and levulose = 150, then, by calculation, invert sugar = 100, that is, a unit weight of sucrose and a unit weight of invert sugar are equally sweet. Since there is an actual gain in weight of sugar in the process of inversion of 5 per cent, it follows that there might be a small gain in sweetness. If Paul's figures, viz., sucrose = 100, dextrose = 52, levulose = 103, are accepted, then, by calculation, invert sugar = 78. The writers have been unable to confirm Paul's value for levulose. However, a conclusion as to the relative sweetness of invert sugar and sucrose should be based on direct experimental evidence, rather than calculated from the relative sweetness of dextrose and levulose, since the character of a sucrose solution changes during the process of inversion. As will be shown, this change depends to some extent upon the method of inversion employed. The most apparent change is in the flavor and there is also a possibility of a partial destruction of levulose.

Preparation of Syrups

Five samples of ordinary highly refined cane sugar, weighing 1 kg. each, were made up into syrups according to the methods described below. All weights of sugar and syrup were corrected for displacement of air. The sugar used was analyzed by the method of double polarization at 20° C. and was found to be 99.99 per cent pure. After being adjusted to the desired concentrations, the syrups were analyzed with a saccharimeter and the results obtained were checked by the copper method described in "A. O. A. C. Methods of Analysis."

Sample 1 was dissolved in 1 l. of distilled water; 5.5 cc. of 0.5 *N* hydrochloric acid (0.013 per cent by weight of C. P. hydrochloric acid (37 per cent), based on weight of sugar and water taken) were added; and the syrup was boiled in a glass flask for 20 min. After cooling to room temperature (20° C.) the syrup was diluted with distilled water to such a volume that 1 cc. contained theoretically 0.5 g. of invert sugar. This syrup was designated as Syrup 1.

Sample 2 was dissolved in 1 l. of water; 5.5 cc. of *N* tartaric acid (0.021 per cent by weight of C. P. tartaric acid crystals (99.5 per cent) were added; and the solution was boiled in a glass flask for 40 min. Previous experience had shown that in a 20-min. period of boiling, with this amount of tartaric acid, only about 67 per cent of the sucrose was inverted, but in a 40-min. period of boiling the inversion is over 95 per cent complete. The syrup which had been boiled 40 min. was adjusted to the same theoretical strength as Syrup 1 and was designated as Syrup 2.

Sample 3 was dissolved in 1 l. of water, and adjusted at room temperature to such a volume that 1 cc. contained theoretically 0.5 g. of sucrose (ordinary sugar). This syrup, which was an ordinary sugar syrup (not inverted), was designated as Syrup 3.

Samples 4 and 5 were combined and dissolved in 6 l. of distilled water, 100 cc. of autolyzed yeast extract were added, and the sugar solution was allowed to stand at room temperature for 48 hrs. At the end of this time the inverted sugar solution was heated to 90° C., mixed with about 25 g. of Norit, filtered, and the carbon washed free of sugar. The filtrate was divided in two equal portions. One portion was concentrated by boiling at atmospheric pressure and after cooling was adjusted to such a volume that 1 cc. contained theoretically 0.5 g. of invert sugar. This syrup was designated as Syrup 4. The other portion was concentrated by boiling in a partial vacuum (pressure of 1 to 2 in.) and finally adjusted to such a volume that 1 cc. contained theoretically 0.5 g. of invert sugar. The syrup was designated as Syrup 5.

Composition of Syrups

After being adjusted to such volumes that 1 cc. at 29° C. contained by calculation 0.5 g. of sugar, the syrups were analyzed with a saccharimeter and the results checked by the copper method. The results obtained are recorded in Table I.

TABLE I—COMPOSITION OF SYRUPS USED FOR COMPARING SWEETNESS

(Percentage of sugar based on weights of sugar and specific gravity of syrups=42.2)

	By Saccharimeter			By Copper		
Syrup No.	Sucrose* Per cent	Invert Sugar Per cent	Total Sugar Per cent	Sucrose* Per cent	Invert Sugar Per cent	Total Sugar Per cent
1	0.9	42.6	43.5	0.5	40.9	41.4
2	1.6	40.5	42.2	2.3	39.5	41.9
3	42.1	0.0	42.1	41.1	0.5	41.6
4	0.8	41.6	42.4	0.1	41.4	41.5
5	0.1	42.9	43.0	0.0	41.3	41.3

*Ordinary sugar.

In calculating the percentage of invert sugar from the reading on the saccharimeter, which were made at 29° C., the value for the specific rotation of levulose found by Vosburgh for a concentration of 5.0 g. per 100 cc. at 29° C. was used. It is of interest to note that the results obtained by the saccharimeter are consistently higher than those obtained by the copper method. Syrups 1, 4 and 5 were satisfactorily inverted. Syrup 2 was inverted only to the extent of 96 per cent, based on the total sugar found by the saccharimeter. This lack of complete inversion, however, did not introduce any serious error in the tasting experiments.

Tasting Experiments

The taste sensation is influenced by many factors, among which are (1) strength of solutions employed, (2) amount of solutions applied, (3) extent of surface excited, (4) duration of the application, (5) temperature of the solutions, (6) state of rest or movement of the tongue, (7) nature of preceding stimuli, (8) adaptation, (9) fatigue, (10) touch, (11) smell, (12) sight. While these and other factors have been kept in mind, a strict psychophysical procedure, by controlling the touch, temperature and movement factors, and by applying minute amounts of the various solutions to single papilla by eliminating smell by closing the nostrils, etc., and thus determining stimulus limen, was not followed. Instead Richards' procedure, using supraliminal solutions of a concentration previously determined to be of special significance, was chosen for comparison. Richards' conclusions as to the sapidity of certain acids were confirmed by Gibson and Hartman, who used the standard but more laborious technic of the psychologist. Moreover, in expressing and interpreting results in the subsequent portion of this paper, the use of technical or psychophysical terms has been avoided with a view to making the experiments more intelligible to the food manufacturer.

The five syrups, therefore, were prepared and adjusted to such volumes that each cubic centimeter contained theoretically 0.5 g. of sugar. The analysis of these syrups by two methods showed that they were, in fact, of the theoretical strength within reasonable limits. The final volumes of the syrups were in the ratio of 100 volumes for the sucrose syrup and 105 volumes for the invert syrups, equal amounts of sucrose having been used in their preparation. The sourness of Syrups 3, 4 and 5 was made equal to that of Syrups 1 and 2 by the addition of an equivalent amount of acid.

Solutions of the syrups varying from 2 to 3 per cent in strength were made with distilled water. These strengths proved on preliminary testing to be most satisfactory for the final comparisons, since the difference in limen of solutions of these concentrations was found consistently to be 5 per cent, whereas higher or lower concentrations were less satisfactory. Portions of the diluted solutions were emptied into beakers and the beakers shuffled. A spoon with a capacity of 3.5 cc. was used to convey the solutions to the mouth. Sipping from the beaker, drawing a measured quantity of solution into the mouth from a bent glass tube, and other methods were tried, but were discarded in favor of the spoon. Before each sweet solution was tasted, the mouth was rinsed out with a spoonful of distilled water. After tasting, the solutions were arranged in the order of their relative sweetness. Due regard was paid to the factor of fatigue and to the nature of preceding stimuli by the duration of the tests and by allowing several hours to elapse after a meal before beginning the tests. While not all the factors enumerated were reduced to a minimum, they were kept very constant. The individual sensitiveness to taste sensation probably does not vary greatly with the individual. Yet as the tests proceeded, a variation in ability to make nice discriminations in taste sensation was noticed. This variation was probably due

to quality of perception rather than to quality of taste sense, since a noticeable improvement was made by the observers in their ability to make correct decisions when several sucrose solutions of slightly different strengths were compared.

(The results obtained are recorded in a table which may be had on request from the library of THE CANDY MANUFACTURER.)

Influence of Flavor

Syrups 1 and 2 were prepared in such a way that they were practically devoid of the flavor which is ordinarily regarded as a characteristic of invert syrups. They gave, however, a slightly harsh or rough sensation, which is undesirable. This harsh sensation was not eliminated by neutralizing the residual acidity of the syrup with alkali. Syrup 4, prepared with invertase and reduced in volume by boiling at atmospheric pressure, possessed a very marked flavor suggesting candy. Syrup 5, prepared with invertase and reduced in volume by boiling in a partial vacuum, possessed a slight though distinct candy flavor. Syrups 4 and 5 did not produce the slightly harsh sensation which was given by the syrups inverted with acid. In fact, they were remarkably smooth, agreeable and honey-like. Of the four invert syrups, Sample 5 was the most pleasing to the senses.

The appearance, flavor and taste of the finished syrups are summarized in Table II.

TABLE II—APPEARANCE. FLAVOR AND TASTE OF FINISHED SYRUPS

Syrup No.	Method of Preparation	Appearance	Flavor	Taste and Touch
1	Inverted with hydrochloric acid	Colorless	Practically none	Slightly harsh, sweet
2	Inverted with tartaric acid	Slight yellow tinge	Practically none	Slightly harsh, sweet
3	Not inverted	Colorless	None	Neutral, sweet
4	Inverted with invertase concentrated by boiling at atmospheric pressure	Deep yellow	Marked candy flavor	Smooth, sweet
5	Inverted with invertase concentrated by boiling under reduced pressure	Slight yellow tinge	Slight candy flavor	Smooth, sweet

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"A man's life may stagnate as literally as water may stagnate, and just as motion and direction are the remedy for one, so purpose and activity are the remedy for the other. Movement is the condition of life anyway. Set the currents going in the air, in the water, in the body, in the mind, in the community, and healthier condition will follow."

"Genius is only the power of making continuous effort. The line between failure and success is so fine that we scarcely know when we pass it—so fine that we are often on the line and do not know it. How many a man has thrown up his hands at a time when a little more effort, a little more patience would come from the bleakest parts of Scotland.

George F. Peck, secretary-manager of the Hutchinson Candy Company, Des Moines, Iowa, passed away at his home October 13th. He was president of the Mississippi Valley Candy Manufacturing Association.

The Purchasing Agent's Aproach

By Helen Hysell

Digested from "The Purchasing Agent" by Lefax, Inc.

It is often said that the "approach is everything." As a rule, the phrase is applied to selling and it is the salesman who is expected to evolve a manner of approach that will make a pleasing impression upon the man he wishes to sell.

But the purchasing agent also conveys an impression to the salesman by his manner of approach. If there can be any great difference in the degree of importance, the purchasing agent's manner of approaching the salesman is the more important.

The purchasing agent must conserve his hours as well as his energy. It is always permissible to refuse to see a representative of a firm from which he cannot buy, or one who calls through friendly motives. To do so saves the salesman's time as well as his own. But the refusal must be courteous and tactful. Better by far to see the man and dismiss him than to permit the refusal to leave the salesman disgruntled, or angry.

The good will and friendly feeling of the salesman is essential to successful purchasing. The average purchasing agent has to buy so many different materials and there are too many different brands and types of all these different materials for him to know each as completely as the salesman knows his particular one. *The purchasing agent regards the salesman as an advisor and relies upon him to give honest counsel.*

The purchasing agent's manner of approach begins with the manner in which the caller is received. A young girl, no matter how pretty she may be, must have tact and a pleasing personality, else she will rub the caller's fur the wrong way.

The most even-tempered salesman resents the empty-headed, indifferent, frequently inaccurate and almost always preoccupied girl chosen by so many firms as a reception clerk. And he resents the superior small boy whose manner is unmistakably condescending and whose eyes, if not his mouth, say: "Good night! Another peddler!"

And yet these are the types of reception clerks most often employed, even in the outer offices of ultra-modern concerns. Now and then the salesman finds an intelligent young women, not necessarily ornamental, but always pleasant and understanding and alert.

The middle-age man, if carefully chosen, is usually satisfactory. In fact, salesmen seem to prefer meeting a man in the outer office, since the majority of women employed in receiving capacity have proven so unsatisfactory as go-betweens.

One large manufacturing concern has imported a typical "Southern Colonel" of kindly dignity whose knowledge of business is nil, but whose instinctive knowledge of tact and courtesy is complete. The purchasing agent of this concern is firmly convinced that this charming old gentleman has been the reason for dozens of especially good propositions offered by salesmen during the year of his employment.

Constructive co-operation is essential to correct relationship between buyer and seller, and one of the most potent factors in establishing this relationship is the consideration and courtesy shown the salesman along the path from the outer door of the general offices to the inner door of the purchasing agent's private office. The approach is everything.

II—Varieties, Composition and Commercial Production of Cocoa and Chocolate

The second of a series of five articles on Cacao Products

by Robert Schwarz and M. A. Posen
of the Schwarz Laboratories

The title "Cacao Products," as used in this series of articles, refers to the various commercial products derived from the seeds of the cacao tree, with or without the addition of other substances. The more important of these commodities are: cacao or cocoa beans, nibs or cracked cocoa, plain chocolate or chocolate liquor, sweet chocolate or sweet chocolate coatings, cocoa powder, sweet cocoa, milk chocolate, milk cocoa and cocoa butter.

The Schwarz Laboratories have for many years specialized on the chemical problems of the chocolate industry and have made a special study of the practical manufacturing problems of chocolate and cocoa plants.—EDITOR.

Exclusively for The Candy Manufacturer

IN the cocoa trade and chocolate industry, cocoa beans are designated either according to the port of export, or country or state of origin. Of an average yearly crop of about 375,000 tons for 1920-1922, the distribution among the various types was approximately as follows:

Trade Designation:	Source:	Percentage of Total Crop:
Accra	West coast Africa	40%
Bahia	Northern Brazil	15%
Guayaquil, comprising Cauguez, Machala, Arriba	Ecuador	10%
Trinidad	British West Indies	9%
St. Thome	African Portuguese Islands	7%
Caracas, Puerto Cabello, Maracaibo	Venezuela	7%
Sanchez	Santo Domingo	5%
Ceylon, Columbian Republic, Costa Rica, Cuba, Guatemala, Granada, Haiti, Java, Panama, Surinam, Timor, Para		7%

Handling the Cocoa Bean Crop

As soon as the cocoa pods have ripened, they are cut down, split in two, and the cocoa beans, freed as far as possible from adhering pulp, are gathered for drying or for the fermenting process. A small part of the cocoa bean crop comes into the market unfermented, that is, the beans are spread out on open hurdles and are sun dried. Most of the beans, however, are put through a process known as "rotting, or curing"—or, as it is more commonly known, "fermenting."

The pulp is not completely removed from the beans, and in this state they are piled in heaps, covered over and permitted to ferment for a number of days. Overheating is prevented, and final drying is accomplished by gradually thinning out the piles and finally spreading the beans. During fermentation, which is due to the development and activity of a yeast-like germ, important physical and chemical changes take place. The body of the bean, known as the nib, assumes the characteristic chocolate brown hue, the harsh, bitter taste becomes milder, and the bean acquires a more pleasant flavor and aroma. While all the changes caused by fermentation are not yet fully understood, the importance of thorough and carefully supervised fermentation is fully appreciated and well cured beans always find a ready buyer.

As soon as the beans, either fermented or unfermented, are sufficiently dry to be shipped, they are packed in bags of 150 lbs. each, transferred from the plantation to the designated port of export and generally shipped to one of the four largest cocoa markets, i. e., New York, London, Liverpool or Hamburg, which handle approximately three-quarters of all the cocoa beans normally sold each year to the manufacturer of cocoa and chocolate products.

As the beans reach the chocolate factory, they consist of the shell, representing on an average 14% of the weight of the whole bean, and the inside of the bean, called the nib, which makes up the remaining 86%.

Composition of Cocoa Beans

Cocoa nibs and cocoa shell show the following average composition:

TABLE I

	Roasted Cocoa Nibs	Roasted Cocoa Shells
Moisture	2.72%	4.87%
Fat	50.12%	2.77%
Theobromine	1.04%	0.49%
Caffeine	0.40%	0.16%
Other nitrogenous substances (including protein)	12.12%	14.54%
Pure starch (by diastase)	8.07%	4.14%
Crude fiber	2.64%	16.63%
Other carbohydrates	19.57%	46.40%
Total ash (mineral substances)	3.32%	10.48%
Water—soluble ash	1.16%	3.67%
Water—insoluble ash	2.16%	6.81%
Acid—insoluble ash	0.02%	2.51%

The Complete Serial on Cacao Products

Article 1, October, 1922—Introductory. Source, distribution and history of Cacao Products.

Article 2, November, 1922—Varieties, composition, commercial production of Cocoa and Chocolate.

Article 3, December, 1922—Standards of Cacao Products and forms of adulteration.

Article 4, January, 1923, The Superintendent's Number—Application, Uses and Handling of Chocolate and Cocoa.

Article 5, February, 1923—Laboratory control of Cacao Products.

Roasting of the Beans

The first step in converting the cocoa bean into finished products is the cleaning of the beans, and also grading when lots consist of beans of greatly varying size. Thereupon, the cleaned and assorted beans are fed into coal fire, gas, or steam-heated roasters, generally of the revolving cylinder type, and are treated at temperatures varying between 220° F. and 290° F. for 1 to 2 hours, the duration of roasting depending upon the temperature, the type of bean, and product which is to be produced.

The important changes taking place during roasting are:

1. Development of the aroma and flavor.
2. Modification of the starch cells.
3. Modification of the astringent principles, resulting in the taste of the bean becoming distinctly milder.
4. Development of color.
5. Drying of the shell which facilitates its subsequent separation from the nib.
6. Drying of the nib, rendering it more brittle and more suitable for grinding.

The roasted and cooled beans then pass through a cracker and fanner which loosens the broken shell and blows away the lighter shell particles. The shells are sold as fertilizer or are burned; the broken or cracked nibs are sent to the liquor mills. From 100 lbs. of raw beans, an average of 80 lbs. of roasted and practically shell and germ free nibs are generally obtained.

Chocolate Liquor

"Liquor Chocolate," also called "Chocolate Paste," or "Bitter Chocolate," or "Cocoa Mass," is the homogeneous mass obtained by grinding the cracked nibs between two or three sets of flat stones or buhrs. Through grinding, the cocoa fiber becomes disintegrated, the fat cells are broken, the mass becomes heated and the melted fat causes the ground liquor to flow from the mill in a continuous stream.

The liquor chocolate thus produced is used in three ways:

1. It is molded and sold as chocolate liquor to confectioners, flavoring extract manufacturers, bakers, etc.
2. It is sent to the cocoa department and separated into cocoa butter and cocoa powder.
3. It is sent to the coating and bar goods department and worked up into plain and milk coatings, bars and confections.

The average composition of chocolate liquor is as follows:

TABLE II

Moisture	1.70%
Fat	54.00%
Theobromine	1.08%
Caffeine	0.42%
Other nitrogenous substances	11.58%
Pure starch (by diastase)	8.21%
Crude fiber	2.65%
Other carbohydrates	17.32%
Total ash	3.04%
Water—soluble ash	0.72%
Water—insoluble ash	2.30%
Acid—insoluble ash	0.02%

Chocolate Blends

When grinding cocoa nibs for the production of cocoa butter and cocoa for bulk trade, the manufacturer generally uses a single type of inexpensive beans. For package cocoa and for coatings and bar goods, from two to as many as seven or eight different kinds of nibs are blended, so as to produce characteristic flavors and shades of colors. In some cases the individual lots of nibs are ground separately and the liquors so produced aged or matured, and these then blended for the production of special cocoas, coatings, bars, etc.

The blending of cocoa beans as well as the alkalizing or "Dutch" processing of the nibs or liquors will be discussed later on. At this time it is sufficient to state that the various types of beans offer many combinations of taste and flavor and thus the skill and judgment with which the practical chocolate maker blends his beans is just as vital to his success as the strict economic control of mechanical production.

The chocolate liquor as it comes from the press is too warm for molding. Such of it as is to be sold as liquor is therefore run into a kettle, tempered, drawn into molds, and in these hardened by traveling through a cold box or by several hours storage in a cold room.

Cocoa Butter and Cocoa Powder

For use in the cocoa department, the liquor is first run into steam jacketed kettles, for the warmer the liquor the more freely will the cocoa butter run from the presses. As the pressure used ranges up to 7,000 pounds per square inch, the hydraulic chamber type presses employed are of very heavy construction.

The capacity of the average cocoa press runs around 300 pounds of liquid per hour, and as in general, chocolate liquor with an average cocoa butter content of 54% is reduced to cocoa cake

with about 22% fat (an unofficial but widely accepted trade standard), it is readily seen that per day of twenty working hours, the average good cocoa press will produce about

3,550 lbs. of Cocoa Cake, and
2,450 lbs. of Cocoa Butter.

The cocoa butter is either sent to the coating and bar goods department, or it is filtered, molded, and sold to the confectionery trade or other industries using this valuable fat.

The highly compressed slabs of partially defatted chocolate liquor remaining in the cocoa press are called "cocoa cakes." These are first broken into smaller pieces by a rough chaser mill and these then passed to a powder mill or disintegrater, which reduces the lumps to the fine cocoa powder handled in the trade. It is cooled and carefully bolted before being packaged or filled into barrels.

Some types of cocoa are specially treated to develop distinctive color or flavors. Others are mixed with spices or sugar (sweetened cocoa) and of late considerable cocoa powder has been mixed with powdered dry milk and sugar and sold as "Ever Ready," "Instant Cocoa," "Lunch Cocoa," etc.

The figures representing a typical cocoa of each of these classes are as follows:

	"Natural Cocoa"	"Lunch Cocoa"
Moisture	2.65%	2.00%
Fat	22.80%	9.58%
Nitrogenous substances	24.10%	10.17%
Crude fiber	4.90%	1.35%
Ash	4.70%	1.92%
Carbohydrates	40.85%	74.98%

Chocolate Coating

Of the numerous products of the cocoa bean, the candy manufacturer is most interested in chocolate coating. "Chocolates" are practically one-third coating, and as the color, aroma, gloss, in fact the general first impression of a box of chocolates, either prejudices or attracts the buyer or consumer, the importance of the coating must always be borne in mind.

Reduced to its simplest figures, the formula for chocolate coating is:

White sugar	50 parts
Chocolate liquor	50 parts
Added cocoa butter	12 parts

From this there are innumerable deviations for plain chocolate alone, and when the field of milk chocolate is reached, the number of possible formulae becomes almost too vast to contemplate. Each manufacturer has his carefully guarded recipes, and yet practically every successful coating manufacturer admits that the quality of his brands is almost as much dependent upon his mechanical manipulations as upon the choice of his cocoa nibs and the composition of his mixture.

Process of Manufacture

The ingredients of the coating are first assembled in a chaser mill, generally called the melangeur. Sugar, melted chocolate liquor and a part of the required cocoa butter are here ground into an intimate mechanical paste. This mixture is then placed in large containers and stored in a hot room for from 6 to 48 hours. This treatment makes the mass homogeneous, and, to a marked extent, brings about a blending of the different flavors.

In the manufacture of milk coatings, hot room treatment plays a very important part. After leaving the hot room, the coating mixture is cooled to a firm, workable consistency, and is then taken to the steel finishers. These consist of water-cooled steel rollers, between whose oppositely revolving surfaces the coating mixture is ground down to a very smooth film, which comes from the final roller as dry soft flakes. Three or five roller finishers are used, and a single batch of coating may be put through one or more finishers from two to ten times.

This treatment blends, develops the flavor, and aids in producing the desired smoothness of texture. The steel finishers deliver the ground coating to deep metal boxes or trays in which it is again stored in a hot room. This is done to soften the mass, and remove the occluded air as much as possible.

Final Blending and Refining

The highest grade coatings, and this also applies to the best grades of eating chocolate, are put through a final blending and refining process in an apparatus called a conge. This generally consists of four steam-heated longitudinal trough shaped pots in which granite rollers travel back and forth and intimately grind and mix the constituents of a batch. The average conge will take a charge of 1,600 to 1,800 pounds at a time, that is 400 to 450 pounds to a pot. The conging process takes from six to forty-eight hours, the longer periods being given to the best grades of milk chocolate. This treatment is particularly beneficial to milk chocolate for it results in an intimate blending of the milk and chocolate flavors, and the production of coatings in which neither the milk nor the chocolate flavor predominate, but both are blended into a new milk-chocolate taste.

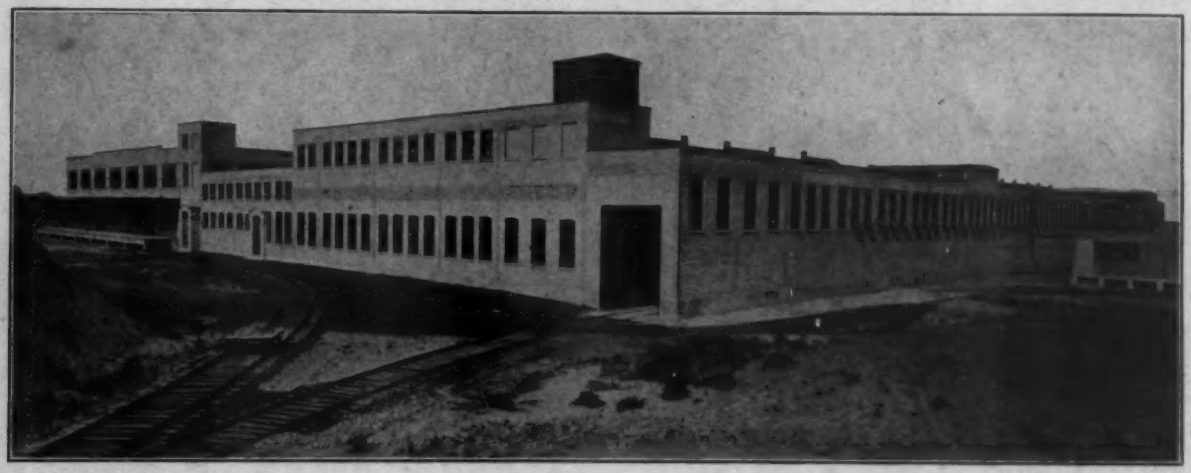
When the conge is used, the coating passes from here directly to the final tempering kettle. Pieces which are not conged are brought from the hot room (after the refining through the steel finishers) and worked in a melangeur. This serves the purpose of giving a final grinding and blending and also attempts to remove the last of the occluded air. From the melangeur the coating mass goes to the tempering kettle. Here the mass is cooled to 88° to 92° F., its consistency adjusted by the addition of cocoa butter and then drawn into molds. In these the coating is permitted to slowly harden, either in cold rooms, or by being conveyed through a cooler.

Milk Coatings

As stated above, the formula for milk chocolate coatings show innumerable variations. In

(Continued on page 39)

"U. S. GEL"



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UNITED STATES GELATINE CO.

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U.S. Gelatine is produced in the World's Largest Gelatine Factory, which means Uniformity, Purity, Strength at the Right Price. Stock used in the manufacture assures a bright, clean, odorless Gelatine.

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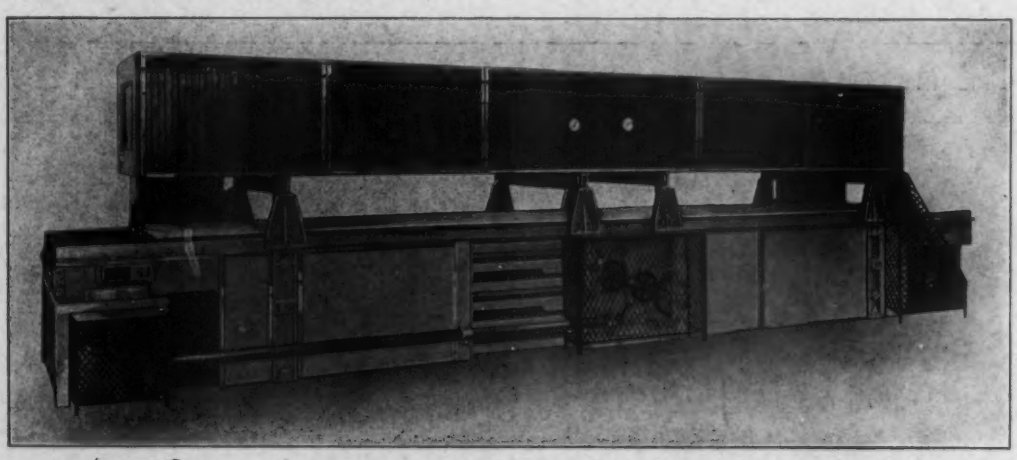
Using a Greer Means a Bigger Ito

GREER SHAKING TABLE

Will assist in raising to the center of the bar the almonds or nuts which have been placed in the mould previous to the chocolate deposit. Shakes air bubbles out and gives a level uniform bar.



THE GREER CHOCOLATE BAR AND TEN-POUND CAKE MACHINE

Guaranteed to produce from six to eight tons per day.

We have built over this machine a Bunker Room which is scientifically insulated. It is piped for either brine or ammonia refrigeration as specified at time of ordering. To operate this machine up to maximum capacity a five-ton refrigeration machine is required for its cooling. The coils and a specially designed blower for air circulation are supplied and so placed that a uniform temperature may be maintained throughout the machine, which insures the proper setting of chocolate bar work quickly.

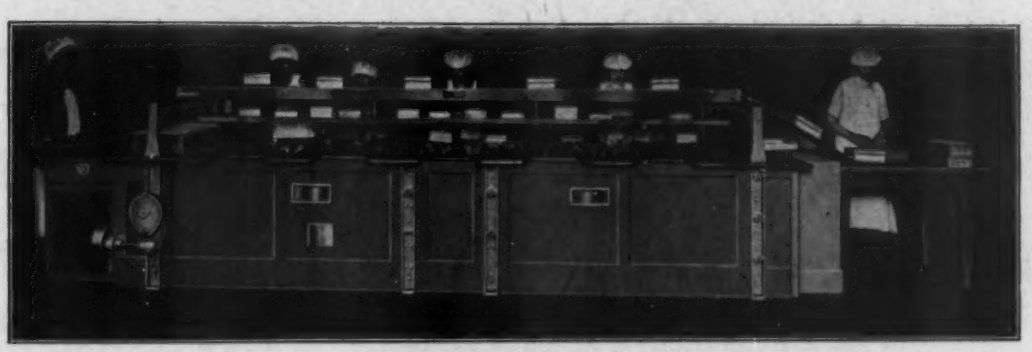
The bars cool and in cooling contract from the metal moulds, freeing themselves, thereby eliminating any damage to moulds by hammering or unnecessary breaking of chocolate. The machine can be equipped with a conveyor passing through a warm tunnel, returning the empty moulds from the delivery end back to the Depositor for refilling. In 25 ft. by 5½ ft. you get a travel of 110 ft., and 360 square ft. of cooling space. Built either with or without Bunker Room.

119-137 Windsor Street **J. W. GREE C**

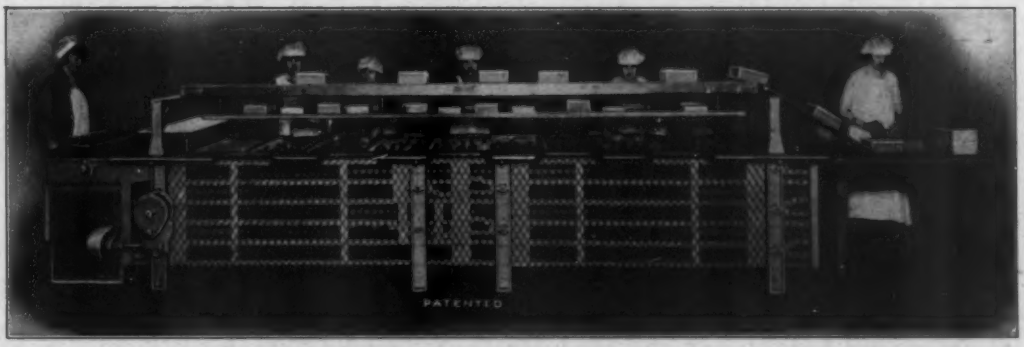
Manufacturers of confectionery th

tory Within Your Existing Walls

THE GREER CHOCOLATE {DRYING / CONVEYING / PACKING} MACHINE



THE ENCLOSED GREER AT WORK ON CHOCOLATES



THE OPEN GREER AT WORK ON CHOCOLATES

Speed up your production by utilizing a Greer.

It places before your packers 200 plaques of perfectly dry goods each hour—a steady stream of finished goods direct from your enrobers, and it sends all the empty plaques back there.

It gives a perfect gloss to your enrober goods—brings them at last right up to hand-dipped, treating each individual piece identically as it handles all the others. The uniformity of your goods is absolute.

You catch the eye of the public with goods of the Greer.

It cuts your production costs, and will take charge of any goods your enrober can produce, and saves 99 per cent of waste.

The setting of the goods is insured by the regulated speed of the conveyor. There can be no discoloring. You can pack direct into boxes. A shelf under the conveyor takes charge of your wax paper, cardboard, boxes, etc., and the filled boxes can be discharged by the upper conveyor where you want them.

Equally good for candy, biscuits or cakes.

In 16 ft. 10 in. by 3 ft. 6 in. you get a travel of 85 ft. and 252 sq. ft. of cooling space—the 60-tray size. It is made in any size, the 53-tray giving 176 plaques per hour, and the 46-tray size 153 per hour.

All sizes mentioned take about ½ H. P. to drive and weigh around 2,600 lbs.

E COMPANY **Cambridge 39, Boston, Mass.**

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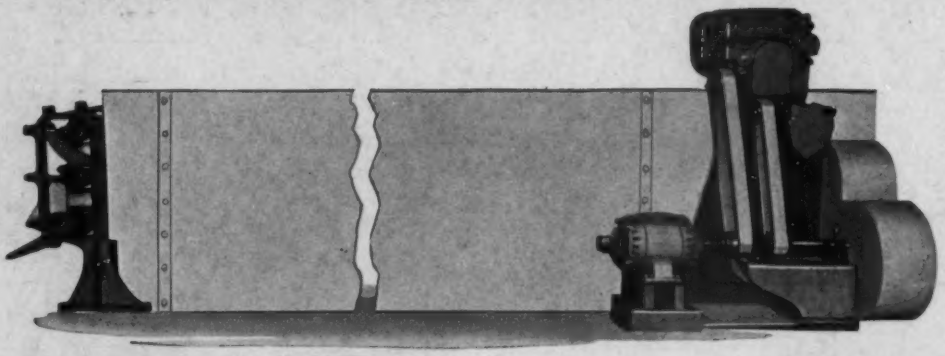
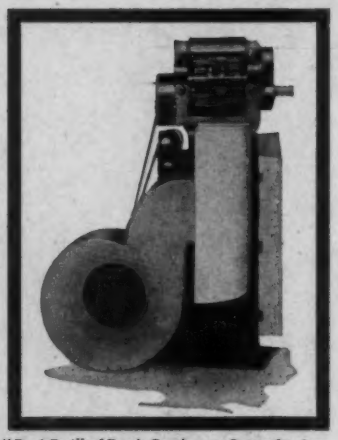
Let us send you full information and net prices on

The BRACH
CUTTER, COOLER and CONVEYOR

The Brach Continuous Cutter cuts pieces in sizes varying from a tiny baby kiss to pieces one and one-half inches square—without ANY CHANGE OF MACHINERY.



I can furnish the BRACH Cooler and Conveyor separate—or connected to the BRACH Continuous worm gear drive Cutter, with a one horsepower motor, as illustrated—ready for operation.



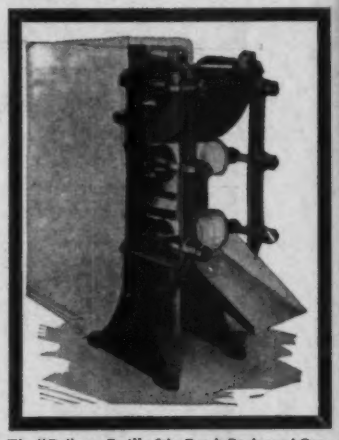
"Feed End" of Brach Continuous Cutter fitted on Cooler and Conveyor, showing blower of Cooler and Conveyor.

For the keen Business Man the best is none to good—when you install the

Brach Hard Candy Equipment

you can be assured you have the best —backed up by our broad

GUARANTEE



The "Delivery End" of the Brach Cooler and Conveyor—note the three belts which operate at different speeds to permit candy to cool thoroughly.

The GREATEST OUTPUT *in the* SMALLEST *Space*

The BRACH CONTINUOUS CUTTER comes in two styles, the belt drive model and the worm gear drive model—both very efficient and highly productive, with a capacity of four thousand pounds of candy per day (some of our customers have gone us one better and claim to have turned out seven thousand pounds in a 10-hour day). If desired without the Cooling attachment, it comes mounted on a firm iron stand, or can be set right on your working table.

The BRACH COOLER AND CONVEYOR is but 17 lineal feet in length, yet gives the candy a travel of approximately 525 lineal feet when used with the Brach Cutter, which cuts the candy off completely. The top conveyor belt runs five times slower than the knives on the cutter, the next belt ten times slower and lower belt twenty times slower, which gives this remarkable cooling capacity against goods cut with a web which would necessitate the belts running slightly faster than the cutting knives.

The New Way (The Brach Way) — Contented Labor, minimum space, maximum output.

30 Days Free Trial

(in U. S. only)

Arrange to have this Equipment sent to you on 30 days FREE TRIAL and prove to your own satisfaction its labor-saving, profit-making qualities.

Write for prices

EMIL J. BRACH

Confectionery Machinery

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The Old Way — Discontented, hard worked Labor, minimum production with maximum overhead.

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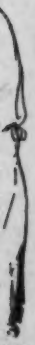

Labor,
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922

II—Varieties, Composition and Commercial Production of Cocoa and Chocolate

(*Continued from page 34*)

general, however, the percentages of the various materials used are as follows:

	Usual Limits	Average
Chocolate liquor	10-20%	16%
Sugar	45-55%	48%
Whole milk solids	12-25%	14%
Added cocoa butter	15-25%	22%

Chocolate liquor and cocoa butter have already been described; sugar is universally known and understood. Therefore, it is only the whole milk solids which must be further discussed.

Whole Milk Solids

"Whole milk solids" mean normal cow's milk, minus the water which it naturally contains, or in other words, the dry material remaining behind when all water from a quantity of fresh milk has been boiled away, or otherwise driven off. These milk solids consist of butterfat, milk sugar, mineral salts, and milk proteins (including casein), and are present in fresh whole milk and dry whole milk in the following proportions:

	Fresh Milk	Dry Milk Powder
Moisture	87.30%	1.85%
Butter fat	3.60%	29.10%
Milk sugar	4.60%	37.33%
Proteins	3.80%	25.92%
Mineral salts	0.70%	5.80%

In making milk chocolate coatings, fresh milk, because of its high moisture content, obviously cannot be used. Therefore, various forms of spray, drum or hot rolled dried milk, as well as sweetened condensed and evaporated milk are used. Frequently the milk is slightly caramelized to impart to the milk chocolate a distinctive flavor. Of late, skim milk powder (dried skimmed milk) and pure water-free butterfat, used in the proportion in which these are normally present in fresh milk, have been successfully introduced in manufacturing milk chocolate coating.

In order to obtain a proper blending of milk and chocolate flavors, milk chocolate coatings must be refined and worked more frequently and for longer periods of time than plain chocolate coatings. Whenever possible, milk chocolate is conged, and when this equipment is not available, the mass is passed through the steel rollers a number of times. Vanilla, coffee, cinnamon and other spices and essential are frequently used to flavor such coatings.

Both plain and milk coatings must be smooth in texture, possess pure and fine aroma and flavor, and be bright and firm in appearance, particularly after being applied as coatings to the centers of chocolate candy. When melted, the coatings must, at temperature of 88 to 92° F. flow sufficiently freely to permit their being used for either machine coating or hand-dipping. This requires a fat content of 32½ to 34%. This, in the case of plain coatings, is cocoa fat only; in milk coatings the total fat consists of about 29% cocoa fat and 3½% or more of butterfat.

The methods and processes used for the manufacture of coatings apply also to the production of bar goods or eating chocolate. This, however, contains about 5% less fat and generally more sugar than the coating.

Dutch Process Cocoa and Coating

In the early part of this article, reference was made to the alkali treatment of cocoa nibs, which is commonly known at "Dutch Process" from the fact that this originated in Holland. As "Duch Process" cocoa and coatings are being manufactured in this country in ever-increasing quantities, a discussion of the process is an important part of any survey of the chocolate industry.

In general, the process consists of treating the roasted cocoa nibs with a solution of bicarbonate of postassium or sodium or ammonium, and thus permitting the nibs to absorb these reagents. Thereupon the nibs are again roasted and it is during this second heat treatment that the carbonates which have been absorbed, produce the changes which are credited to the "Dutch Process."

There is great divergence of opinion as to the value of the "Dutch Process," and a number of manufacturers are even today entirely opposed to the procedure and hold that the treatment with carbonates merely darkens the color and increases the ash content. A large number of chemical and physical tests, however, have clearly shown that the treatment with carbonates tends to disintegrate the refractory particles of the cocoa mass, that it tends to neutralize some of the astringent principles of the cocoa, and that it produces a cocoa powder which will more readily remain in suspension than the unalkalized or natural product.

It is furthermore the opinion, not only of manufacturers, but of users of coatings, that a carefully manufactured "Dutch Process" liquor possesses a richer and more pronounced chocolate flavor and that therefore for blending purposes, "Dutch Processed" liquors are almost invaluable to the manufacturer of cocoa and coatings.

In general, but two pounds of potassium or other carbonates are used per one hundred pounds of cocoa nibs. Not all of this finds its way into the finished cocoa powder or chocolate liquor and therefore the increase in mineral content of the finished product is only between 2 and 3%. Those who look upon "Dutch Process" products with disfavor have held that the addition of these chemicals is only an adulteration resorted to for the purpose of darkening the color. This opposition to the "Dutch Process" is, however, slowly but surely disappearing and from the trend of manufacturing pro-

(*Continued on page 47*)

The Value of Decolorizing Carbons to the Manufacturing Confectioner

by Stroud Jordan, Ph.D.

Industrial Chemist

The first of a series of nine articles (as per schedule on next page) on a number of vitally important and practical subjects. Dr. Jordan is actively associated with one of the foremost manufacturing confectioners of the industry and this series of articles is an exceptionally valuable acquisition to our editorial program.

Exclusively for The Candy Manufacturer

MUCH has been said during the past few years concerning the value of vegetable decolorizing carbons to the sugar refiner. Many producers have entered the market with as many different brands, claiming a superiority over bone char and the several other brands manufactured by competitors, but the refiners have not found it entirely profitable to junk costly plants for decolorizing with bone char or to pay the advance in price charged for the vegetable carbons. As to the superiority of many of these carbons, there can be no question from a laboratory standpoint, but when one translates laboratory processes into factory operations many factors must be considered which have not been previously apparent.

Syrup from Raws vs. Syrup from White Sugar

Still more recently it has been attempted to interest manufacturing confectioners in the use of vegetable carbons, claiming that white syrups can be made from raw sugars at a less price per pound than when the white sugar is bought and dissolved in water. This statement has not proven wholly false nor yet is it true, for there are some uses for such syrup where the claim is justified, but such use is necessarily limited.

In any process where the syrup is subjected to high boiling temperatures it will be found that the small amount of impurities left in the white syrup made from raw sugar will cause quicker coloring and more inversion than takes place in the corresponding syrup made from standard granulated sugar and water.

This fact can be readily seen if we remember that in the production of standard granulated sugar the white syrup from the raw sugar is boiled and crystallized and the crystals separated, which constitutes the sugar of commerce, while the liquid from these crystals carry out the impurities. This liquid is reboiled and used for production of more sugar of an inferior grade until the residue of molasses or syrup cannot be used further and is sold as syrups.

In such a process the impurities are virtually eliminated from the standard granulated sugars, while the white syrup from the raws contain the impurities later eliminated in the refining process. In making fountain or fruit syrups, in the canning and preserving industries, or in candy making, where the small amount of impurities and consequent color and inversion is of no moment, such syrups can be used to an advantage, if their consumption will warrant the installation of necessary equipment for their manufacture.

Laboratory vs. Factory Tests

It must be remembered, however, that it is easy to take a pound of raw sugar, dissolve it in water, add the required amount of carbon, bring to a boil and filter through a filter paper. It will also be found comparatively easy to dissolve 25 pounds of sugar in water and follow the same process, filtering through a small experimental press. Perhaps each will give white syrup, but it is more difficult to translate this process to a factory scale. One must calculate the space required in his press, the speed of filtration and daily output under varying carbon ratios as well as the loss in the process of sugar held in the carbon and from leaks, and the labor charge, remembering that the cost per pound is greater when small amounts are compared with maximum production on the same equipment. In other words the whole thing resolves itself into a question of establishing an up-to-the-minute plant for decolorizing and filtering raw sugar syrups, and this may be done only where the actual requirements are great enough to justify such an outlay of money.

Other features to be considered are the cost of carbons, whether they may be revivified or must be thrown away after one filtration, concentration of the sugar solutions required, remembering that decolorizing will generally take place in the more dilute solutions in a much more efficient manner than in high concentrations, and whether or not the syrups made must be concentrated before use. It has

The Series by Dr. Stroud Jordan

1. **Removal—"Decolorizing Carbons and Their Value to the Manufacturing Confectioner."**
2. **Some causes of color in sugar products and their prevention.**
3. **Color comparisons and determinations.**
4. **Commercial colors; their uses and abuses.**
5. **Standardization of colors for confectioners' use.**
6. **The manufacture of invert sugar on an ordinary factory scale and the utilization of equipment already on hand for this purpose.**
7. **Air holes in confectionery and their role in the fermentation of centers and creams.**
8. **What is a thermometer; why and when to use it?**
9. **Inversion of sugars in process and the prevention of this reaction.**

been found better practice to handle raw sugar for decolorizing after it has been washed, and this is an extra process which entails extra labor charge and a further loss of 15 to 20% of sugars which are washed into the syrup. It is also to be remembered that it is far easier to wash out more sugar than to reduce the loss and that unless one has use for molasses or sugar in his own plant, that it will be almost a dead loss, especially in small quantities.

To offset this loss due to washing one must increase the carbon ratio, which cuts down the press efficiency and raises the carbon charge per syrup pound, and it will generally be found that under common working conditions that the loss of sugar in washing will not cost as much as the increased cost for carbon. With these facts in mind one may decide whether it is cheaper to buy standard granulated sugar or other grades suitable for his purposes, and to allow the refiner to make his sugar rather than to attempt to decolorize his own syrups.

Determining the Practicability of Using Vegetable Carbons

The prospective uses for the vegetable carbons in the manufacture of confectionery become apparent if one has much off-colored syrup to use up or produces colored scrap in quantity. In many cases the color can be completely removed and a white syrup restored which is equal to the original syrup made from standard granulated sugar and water and which will serve every purpose. Especially is this true of yellow syrups which have been reboiled many times and which are no longer fit for white goods. The press action under these conditions is rather efficient for one clothing of the press (18 inch, plate and frame, corner feed, washing with open delivery and carrying 18 plates) will serve to handle about 5,000 pounds of colored syrups when an average of three-quarters of a pound of carbon is used to each 100 pounds of syrup.

The largest problem facing the manufacturer is whether there is enough off-colored syrup and scrap to make a continuous process, for the actual sugar loss is far greater in an intermittent operation and the disposition of skilled press labor is not easily arranged for idle press time. The next largest problem is the carbon cost and whether its use is great enough to warrant a furnace being installed for revivification. Assuming that one would handle 15,000 pounds of material daily and that the carbon ratio was three-quarters pound per hundredweight of material, this would require 112.5 pounds of carbon at a figure in excess of $25.000, when based on the last quotations available for the better grade carbons. As to whether this amount would be worth while revivifying would depend upon the product obtained after reburning and the loss in weight in the process, as well as the slight loss in actual decolorizing power which accompanies each burning. It would cost in the neighborhood of 1/5 cent per pound on each pound of syrup produced, if the carbon was thrown away after the first operation.

At best it can be said that the actual value of decolorizing carbons to the manufacturing confectioner is problematic, depending on the use to which he would put clarified and decolorized syrups, the available amount of raw material per day for this process and the actual amount of the finished syrup he would be able to dispose of in each working day in his plant.

To make the process continuous and on a scale large enough to be moderately profitable one would require at least five tons of syrups and scrap per day and this to cover at least five days per week. Amount less than this may be handled, but with a questionable profit, depending upon many factory factors which will be different for each plant, but it will suffice to say that if one has no use for these off-colored syrups and scrap it is a dead loss and small amounts will save money, if worked up. However, this is rarely a situation in the plant, for there are many uses where the colored goods may be worked back without decolorizing.

Wherever the syrup and scrap may be used without rehandling and decolorizing it is advisable to do so, even though it find its way into a cheaper product.

Molasses—Its Varieties and Manufacture

by Charles William Taussig

An article on the *Practical Handling of Molasses* will appear in an early issue, based on a number of questions about the purchasing and handling of molasses which have been submitted by our subscribers. Send in your questions or problem to be discussed in this next article.—*Editor.*

Exclusively for The Candy Manufacturer

NOT many years ago molasses was one of the principal foods in this country. At that time it was made by pressing the juice from the sugar cane, boiling it to a crystal in large, open kettles, and then putting the crystalline mass into perforated hogsheads, where the liquid was allowed to run off, leaving in the hogsheads what was known as open-kettle or Muscovado sugar, producing as a by-product a rich, heavy syrup known as open-kettle molasses. This is the molasses that our grandparents knew and which, in those days, was to be found on every table. At that time such open-kettle molasses was about the only kind that was produced, for modern sugar-making machinery was not extensively used, and consequently much of the sugar was retained in the by-product, molasses.

Today the problem of molasses is not such a simple one. Ranging from the high-grade, open-kettle product just described to final molasses, generally called blackstrap, there are various intermediate grades.

So many different kinds of molasses had come into being that during the war Herbert Hoover, Food Administrator of the United States, found it necessary to appoint a committee for the purpose of classifying and grading the various kinds of molasses. This committee consisted of five men prominent in the molasses and sugar industry, namely, R. E. Milling of New Orleans, La.; W. L. Petrikin, president of the Great Western Sugar Co., Denver, Colo.; N. W. Taussig, president of the American Molasses Company of New York and of the Nulomoline Company, New York City; G. R. Bunker, secretary of the National Sugar Refining Company, New York City, and C. D. Kemper, vice-president and general manager of the Sterling Sugar Company, Franklin, La.

These gentlemen divided molasses and syrups into several grades:

(a) *Cane syrup.*

(b) *Old-fashioned, open-kettle molasses.*

(c) *Centrifugal molasses.* (The latter was divided into two divisions: 1st, centrifugal molasses derived from the open-kettle process, and, 2nd, centrifugal molasses derived from the vacuum process. These two subdivisions were both divided into first, second and third molasses.)

(d) *Refiners' syrups,* which were subdivided into, 1st, the highest quality of filtered syrup; 2nd, medium syrup; 3rd, unfiltered syrup; 4th, blackstrap.

(e) *Commercial glucose,* commonly and properly known as corn syrup.

The process by which these syrups and molasses are manufactured is varied:

Cane Syrup

(a) Cane syrup is manufactured by the small farmer of the South by the sugar cane being crushed, sometimes in a small horse-mill and feeding by hand one or two stalks at a time, and the juice therefrom evaporated in a flat pan heated by applying fuel directly under the pan. This same quality of syrup is made in the large syrup houses of Louisiana by passing cane through a much larger mill driven by steam, and the juices boiled either in open-kettle trains or vacuum pans, and boiled to just such degree that crystallization will not take place. These syrups contain all of the original sugars, both direct and invert, and to a large extent take the place of sugar, as such syrups can be used for almost any purpose for which sugar can be used.

Open-Kettle Molasses

(b) Open-kettle molasses is produced by the same process as whole or cane syrups, except that it is boiled down to the point where crystallization takes place and the entire mass is then placed in hogsheads or barrels upon an inclined floor, so that the molasses will drip from the sugar. This process of extracting molasses from the sugar has been in vogue in Louisiana for more than three-quarters of a century, and that quality of molasses is regarded as the very best; in fact, it has so delicate and delicious a flavor that it sells upon its color and flavor and brings higher prices than even the cane syrups.

Centrifugal Molasses

Centrifugal molasses is produced by boiling the cane juice to the point of crystallization and then separating the molasses from the sugar crystals by passing it through a fast rotating machine called a "centrifugal." As above stated, centrifugal molasses is divided into first, second and third molasses.

First molasses, which is the highest quality of centrifugal molasses, depends for its quality upon the quality of sugar from which it is separated. If the sugar is of a grade known as "clarifieds" or "plantation granulated," the molasses separated therefrom is of much better quality than if derived from the manufacture of raw sugar. This is due to the fact that in manufacturing high-grade sugar it is necessary to clarify the cane juice to a greater extent than in producing 96° or raw sugar, and consequently the molasses produced is lighter in color, considered of better quality and sells for a higher price on the market.

Second molasses is produced from first molasses after allowing it to remain in iron tanks in the hot room of the sugar house some two or three weeks, until crystallization takes place, and then passing it through centrifugals in the same manner in which first molasses is produced, the residue in this instance, however, being called second molasses. This molasses, like first molasses, differs greatly in quality, depending largely upon the character of sugar from which it is separated. If produced from first molasses, which first molasses is produced from high-grade sugar, then it partakes largely of the nature of the first molasses from which it is derived.

Third molasses is produced from second molasses in exactly the same manner as second molasses is produced, except that it takes longer for the crystals to form in the second molasses than in the first; so second molasses, when the second sugars are taken therefrom, is thrown into large magna tanks and allowed to remain in this condition until the following summer when the weather gets very warm; then crystals form therein and they are separated from the molasses by passing it through the centrifugal in exactly the same manner as first and second molasses are produced. Third molasses differs in quality, due to the character of the second molasses from which it is produced, care in manufacturing the same and the extent to which the sugar is extracted therefrom. The lowest grade of third molasses is known as "blackstrap." These molasses are also called "final molasses" and they are thus named whether they are high-grade third molasses or blackstrap. All blackstrap is final molasses, but all final molasses is not blackstrap.

Refiners' Syrups

Refiners' syrup is produced from the refining of raw sugar. Such raw sugar, of a standard polarization of 96°, usually produces about 93 pounds of granulated sugar and 5 pounds of refined syrup, or, if blackstrap is produced instead of refined syrup, somewhat more than 5 pounds. These refined syrups are sold on sample and their value depends so entirely on their color and flavor that it is not practicable to establish standard grades. When sold for export they are graded as filtered or unfiltered, according to whether they have or have not received a final filtration.

The proportion of final filtered syrups and blackstrap produced by the refinery depends upon, first, whether or not the refinery is equipped to produce filtered syrups, and, second, the relative price of each. Refineries that are equipped for making the highest quality of refined syrup may produce blackstrap by simply failing to filter the syrups. Of course, it costs more to produce the filtered syrup than the blackstrap, and this added cost may or may not be proportional to the extra value added to the syrup by the filtration process; this is difficult to determine. But the essential fact is that the refiner produces by this extra refining a very high grade of table syrup, whereas if he produces blackstrap it is used only as animal food or for distilling.

Cane syrup, old-fashioned, open-kettle molasses, first and second molasses and refiners' syrup are used for direct consumption. All of these grades and the higher grades of third molasses are used to a great extent by blenders and canners in producing different grades of molasses and syrups sold by them for direct consumption.

Corn syrup, incorrectly but more or less generally known as commercial glucose, is produced from corn in factories erected for that purpose. The process consists of first producing starch and then hydrolizing the same, from which a colorless liquid is produced possessing no direct sucrose, but which is considered equal to sucrose in food value. When sold as a table syrup this commercial glucose is flavored and given its color by the addition of refiners' syrup, cane syrup, old-fashioned, open-kettle molasses or maple syrup, or sugar; or, if a perfectly white syrup is desired, then by the addition of granulated sugar. This liquid sweet is commonly known as corn syrup and is sold in large quantities throughout the United States. The confectioner purchases corn syrup without the admixture of refiners' syrup or sugar.

Uses and Consumption of Molasses

The uses to which molasses is put varies with the locality. In cities what little molasses is used is principally for baking. (We speak here of home baking.) In the country it is not only used in baking, but as a pleasing substitute for butter and for jam. In certain sections of the country, when one stops at a small wayside inn and orders his coffee, he will be asked whether he wants "long or short sweetening." The

short sweetening is sugar and the long sweetening is molasses.

In Newfoundland molasses today is still one of the principal ingredients for sweetening tea and coffee. In the South the consumption of molasses is very large, for there it is used in a multitude of articles of home cooking. Molasses pie is considered a great delicacy in Alabama and Louisiana, as well as other southern states.

The state of Louisiana produces annually about 200,000 barrels of edible molasses, about 75,000 barrels of which are used by the large biscuit bakers, cake bakers and confectioners in the manufacture of their products. About 150,000 barrels of edible molasses are produced annually in the West Indies.

The principal use of molasses today is not as a food, but for technical purposes. More than two hundred million gallons of molasses are used annually in the manufacture of alcohol, that is, four million barrels! This, of course, is blackstrap molasses and not edible molasses.

The molasses industry was an important one during the war, inasmuch as molasses was one of the principal raw materials from which alcohol was made, and alcohol was of prime importance in the manufacture of explosives.

It has only been of recent years that the handling of molasses has been done in an efficient manner. Less than ten years ago I saw, in Cuba, actual lakes of molasses which had been allowed to run off from the sugar house and wasted, due to lack of transportation facilities. Tank cars are now sent out to the various sugar factories to collect the molasses as it is being made, and it is then brought back to the big tanks at the seaports. From these tanks it is ultimately pumped into tank steamers and brought to the United States or sent to Europe.

Is the Demand for Molasses Goods Falling Off?

The confectioners with whom the writer has had the pleasure of talking in the past few years have, as a general rule, complained that the demand for molasses goods is falling off. This is not strange, for, as it becomes more difficult to obtain good molasses and the price becomes higher, the tendency has been to cut down the quality of the molasses used. This reduction of quality will in time entirely kill the sale of molasses candies.

The confectioners who specialize on molasses pieces, particularly those nationally advertised, and who enjoy a good business, invariably use a fairly high grade of molasses. The higher the grade of molasses, the more varied its use, for a good Muscovado or open-kettle molasses will cook much higher than centrifugal molasses, principally due to its higher sugar content. It, therefore, can be used largely in place of sugar, and carries its characteristic flavor into such type of goods that would not otherwise be made with molasses.

Molasses is becoming more or less standardized for the confectioner and can be purchased in uniform grades. The confectioner can readily get along with not over four grades of molasses, which can be made up from the types of molasses previously mentioned.

For their standard grade A molasses a West India open-kettle or blend is excellent. This type of molasses costs more than most domestic molasses, but it gives to the candy a characteristic, rich, rummy flavor, much to be desired. Considerable of this type of molasses is being utilized by the confectioners today.

The standard grade B molasses can be a high-grade New Orleans molasses, probably a mixture of open-kettle and first centrifugal of a fairly light color. Similarly to grade A, it can be used in high-class molasses pieces, but it has neither the same characteristic flavor, nor the high cooking point of the grade A.

For grades C and D first or second centrifugal molasses of fairly good color, may be recommended, but not necessarily, what might be termed light-colored molasses.

The proper molasses, properly used, will make candy that sells. Molasses specialties often keep a confectioner busy in an otherwise dull season. Good molasses and good chocolate coating make an excellent combination, and a number of manufacturers of quality goods include such combinations in their high-priced package goods in the form of chocolate-coated molasses kisses and chocolate-coated molasses caramels. For this type of work grade A is recommended.

A department store in Chicago, which has an excellent candy department, made a Saturday Special, some few years ago, which they called "Old-Fashioned West Indies Molasses Candy," using grade A molasses. This sale was advertised in the newspapers and over $350 worth of molasses candy was sold over the counter in a few hours. Prior to their using a good, distinctive molasses no large sales of molasses candy had been made.

Molasses is one of the most healthful types of sugar products, containing, as it does, natural mineral salts which are so essential to the human constitution.

Molasses is a crude product, and, like other crude and half-civilized things, is frequently better than the more highly refined products. For instance, sugar, a carbohydrate, is a good food when taken in combination with something else, but pure it lacks many essential constituents that go to make a well-balanced ration. Molasses, on the other hand, also contains carbohydrates, such as sugar, but, in addition, has many other organic and inorganic substances that aid in body-building.

The confectioner will do well to consider more seriously the use of molasses in his products.

How the Manufacturer Can Help the Jobber

(*Continued from page 23*)

Are You Doing Your Share

In checking over the list of members of the Association who have co-operated with the Publicity Department in distributing advertising matter through the jobber, it is found that there are many large concerns that have not done one thing, and yet there is every evidence of the publicity work having to date created not only more interest in candy, but a good will toward candy and the industry. Also special holidays have been utilized to very good advantage in stimulating the candy business.

We have evidences in Easter and Christmas of what the concentrated power of the American public means when it picks out a certain date upon which it buys candy. There is the sentiment of holidays and the novel features in catering to these holidays that will give a tremendous suggestive power to the public in the purchase of candy.

Individual manufacturers have seen the advantages of making use of these holidays and to their great benefit. Ordinary dull seasons have been made busy seasons. A day like Hallowe'en, which has not been especially a candy-buying day, has been made tremendously productive of business to some manufacturers by catering to the Hallowe'en spirit and idea.

It is equally true that Thanksgiving Day, St. Valentine's Day, Washington's Birthday, St. Patrick's Day, Mothers' Day, Flag Day, Fourth of July can all be made days upon which people will get into the habit of buying candy.

To carry this idea out it cannot be done by an individual. Holidays as they relate to the purchase of a product are only made productive of such purchases when the industry as a whole gets behind the idea.

Building Good Will

There is no way that a manufacturer can create good will of the jobber better than to help him sell that which he has sold him and manufacturers selling to the jobbing trade should not simply do nothing just because they are called upon sometimes by the jobber to do too much, but should do that which they feel is reasonable and right that they should do, and then tell the jobber that he should divide his requests amongst all the manufacturers from whom he purchases rather than to ask some one manufacturer to meet his entire requirements.

McKusick Candy Company, Minneapolis, are successors to McKusick, Towle & Company. They are now located in their new factory at 257 N. Plymouth. The officers are A. N. McDole, president and treasurer; F. E. McKusick, vice-president; S. P. Harris, secretary.

When Is an Article *Expensive?*

WHEN you went to the Chicago Convention last May, perhaps you bought a new traveling bag. You used it for *that* trip, *three* times during the winter, and *once* this summer when you went on your vacation. You paid Fifteen Dollars for it. Now it is *shabby* and you need a *new* one. When you bought that bag the clerk wanted to sell you a Thirty Dollar bag, but you turned it down as *too expensive*. But, if you *had* bought it, and *now* found it to be *as good as new*, with *five trips* behind it—then the *Thirty Dollar* bag would have been *cheaper* than the *Fifteen Dollar* bag.

The same *common sense* applies to the purchase of all materials. If you buy an *inexpensive* gelatine and have to use a *considerable* quantity of it because of *lack* of *strength*, and have to *discard* some of it because it does not run *uniform*, it is *more* expensive than the *higher priced* gelatine, a *little* of which gives you the *body* and *texture* you want while all of it can be used because of *uniformity*. *Your cost sheets* (after a test) will prove to you (as cost sheets are proving every day to hundreds of confectionery manufacturers) that Essex Gelatine is the *"less expensive"* gelatine.

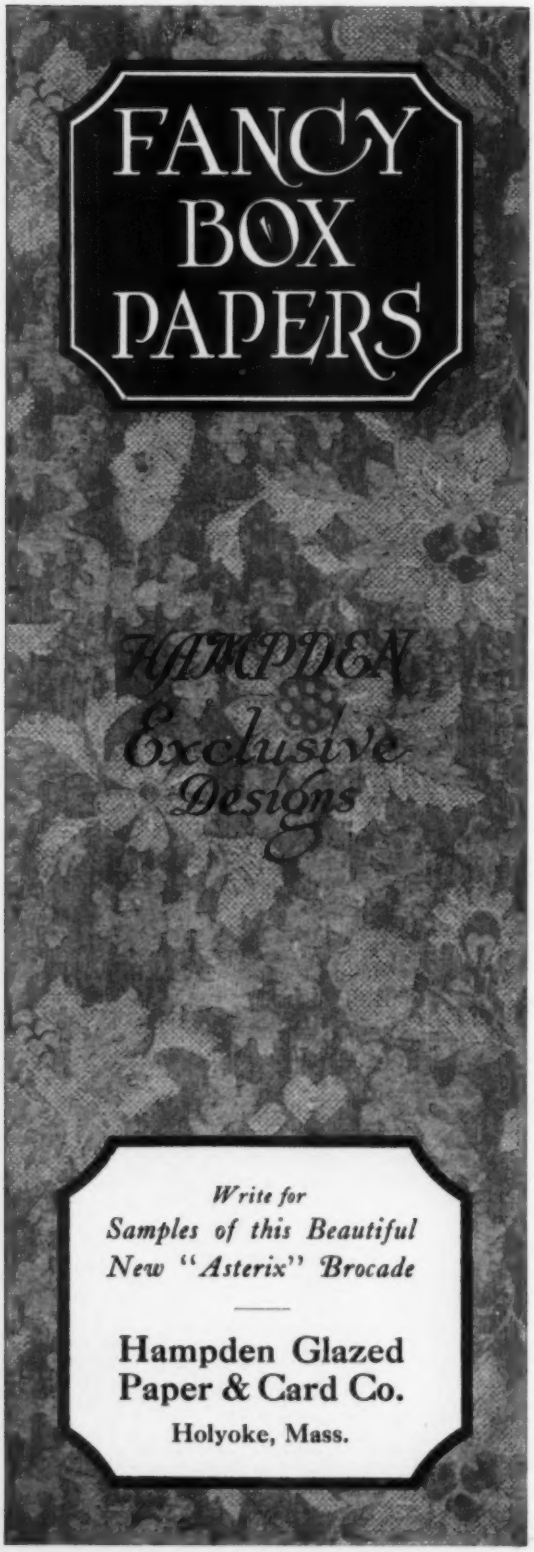
A shipment can be made to you at once from the warehouse nearest to you—Boston, New York, Philadelphia, Chicago, St. Louis, San Francisco.

Essex Gelatine Company

Manufacturers

40 North Market Street

BOSTON, MASS.



Incentive

An Editorial

Incentive is the motive, the stimulus, the encouragement that leads men on.

It is of the mother of ambition.

The world is full of incentive.

It is incentive enough to have before one the fruits of the earth but that is not all there is.

Each man is master of his Kingdom of Thought and his Kingdom of Thought is full of loyal subjects.

As the brain gathers its wealth of knowledge the mind awakens to a duty, and vision, initiative and execution take the place of regret.

Many fail because they do not see the incentive and forget that the desire to win must start with themselves, that encouragement is a rainbow whose colors vibrate from the man and not from the objective.

The world does not owe you a living, it only furnishes it and you must burrow for it.

The incentive is happiness.

Happiness comes to those who seek it, who avoid the things that make them unhappy.

There is plenty of incentive, the reward awaits the victor and is worth trying for.—*The Cracker Baker.*

"When the One Great Scorer comes to write against your name, He writes—not that you won or lost—but how you played the game."

Anybody can cut prices, but it takes brains to make a better article.—*Alice Hubbard.*

OFFICIAL
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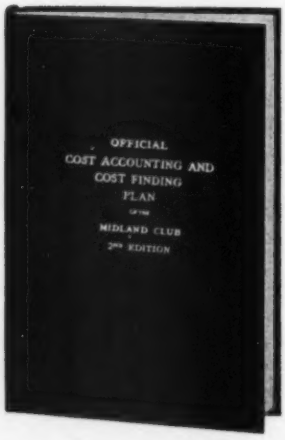
Adopted by
The Midland Club



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The Candy Manufacturer
30 North La Salle St., Chicago

II—Varieties, Composition and Commercial Production of Cocoa and Chocolate

(*Continued from page 39*)

cesses today, the conclusion seems entirely justified that "Dutch Process" cocoa and chocolate liquor, as well as coatings, will become more and more popular and in greater demand as time goes on.

Keeping the Sales Contest Alive

To start a sales contest and expect interest in it to be maintained merely through the offering of prizes usually results in disappointment. Investigation shows that the glory and sport of a contest combine to make a 50% to 70% factor and best results are obtained only by putting into operation methods which will encourage this spirit.

Furnishing standings of salesmen in the contest, with speed and regularity, is considered one of the first essentials in this connection. House organs and bulletin sheets are widely used for this purpose. Several side prizes are frequently put up and awarded for various accomplishments while the contest is operating. The venacular of golf, baseball, sweepstakes, bowling, boat racing, or other sports, is very often used in general communications to the salemen. Personal letters from the sales manager giving evidence that he is personally watching each salesman's progress, are valuable in this work.

Holcomb & Hoke Mfg. Company, Indianapolis, are accomplishing unusual results along this line through the use of special letter and letterhead stunts, such as those illustrated on this page. These features are connected with the Sweepstake idea behind the contest and they are regarded as very important in keeping alive the sporting spirit and honor of winning which have a great influence in the results obtained.

For the small sales organization, or for those concerns not wishing to go to the trouble of getting up individual letterheads, a variety of designs are available in any quantity at a cost that is trifling.

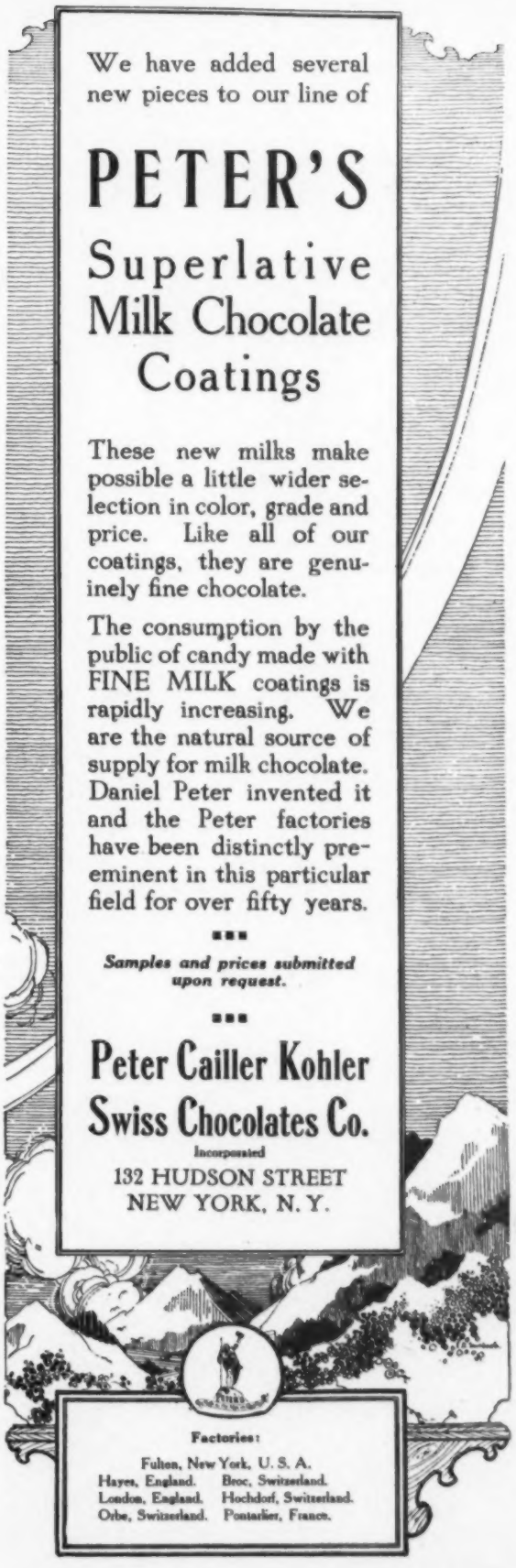
Such letterheads are also used very effectively by many concerns in special sales drives, better business propaganda to salesmen and dealers, speeding up summer sales, and other similar plans.—*Dartnell Sales Data.*

Buyers of Today Using Saleman's Tactics

H. W. Kempnich, of the Lightning Coin Changer Co., says that the buyer today is resorting to all the old-time tricks and a few new ones, and when he finds a good stock excuse which gets rid of salesmen, he keeps it working just as we keep a good selling demonstration working.

"Keep your mind on the great and splendid things you would like to do; and then, as the days go gliding by, you will find yourself unconsciously seizing the opportunities that are required for the fulfillment of your desires—just as the coral insect takes from the running tide the elements that it needs. We become like that on which our hearts are fixed."—*Elbert Hubbard.*

The Spangler Manufacturing Company of Bryan, Ohio, have changed their name to Spangler Candy Company.


We have added several new pieces to our line of
PETER'S
Superlative Milk Chocolate Coatings
These new milks make possible a little wider selection in color, grade and price. Like all of our coatings, they are genuinely fine chocolate.
The consumption by the public of candy made with FINE MILK coatings is rapidly increasing. We are the natural source of supply for milk chocolate. Daniel Peter invented it and the Peter factories have been distinctly pre-eminent in this particular field for over fifty years.
Samples and prices submitted upon request.
Peter Cailler Kohler Swiss Chocolates Co.
Incorporated
132 HUDSON STREET
NEW YORK, N. Y.
Factories:
Fulton, New York, U. S. A.
Hayes, England. Broc, Switzerland.
London, England. Hochdorf, Switzerland.
Orbe, Switzerland. Pontarlier, France.

A Chocolate Factory devoted to the exclusive manufacture of High Grade Chocolate Coatings and Liquors

Samples and Prices sent on request

FORTUNE PRODUCTS CO.
416-22 South Desplaines Street
CHICAGO

The Sweetest Note of All

The summer with its zephyrs soft, its birds and whispering trees,
Its roses and its clover kissed by baby bumble bees,
Its sunshine and its babbling brooks wherein the fishes play,
Its meadows where the lambkins bleat and gambol all the day.

Oh! the summer is delightful, it inspires each bard to song,
Right merrily he trills his lay and lilts his way along;
But as for me, for me I say—the days are none to fleet
That take with it its summer with its fleas and prickly heat.

I'm Johnny on the spot, I am for golden, bracing fall,
For glorious Indian summer, golly! how I love it all;
The crispish air of autumn stirs my blood from head to heel,
It's then that life's worth living, like a yearling colt I feel.

I eat just like a farm hand and I sleep just like a top,
I hike me to the woodlands, where I run and skip and hop;
The fire of youth is in my veins, I feel so bully good
That if with John D. I could trade I don't believe I would.

For what in all this wide wide world is greater joy than this:
A restful nook, a friendly book and other homelike bliss,
The cosy joy of blazing hearth, the music sweet of love,
The cooing of the kiddies and the happy humming o'
The sweetest little woman—fairer now than any bride,
A jug or two of cider and some popcorn on the side;
Count this the joy of living, living where the call of fall
In nature's grand symposium is the sweetest note of all.

—Harlan Babcock.

Failure Turns to Success

Genius is only the power of making continuous efforts. The line between failure and success is so fine that we scarcely know when we pass it—so fine that we are often on the line and do not know it. How many a man has thrown up his hands at a time when a little more effort, a little more patience, would have achieved success. As the tide goes clear out, so it comes clear in.

In business, sometimes, prospects may seem darkest when really they are on the turn. A little more persistence, a little more effort, and what seemed hopeless failure may turn to glorious success. There is no failure except in no longer trying. There is no defeat except from within, no really insurmountable barrier save our own inherent weakness of purpose.—*Hubbard.*

Dull times always produce the best business men. Anybody can conduct a business when all is rosy. In sunny Spain, even, where the soil is fertile, the worst farmers are to be found. The best gardeners come from the bleakst parts of Scotland.

The New Business Trinity

Are you familiar with the new business trinity? If not make their acquaintance, pronto! They are best known by their family name, Budget. Individually they are Sales Budget, Production Budget and Financial Budget. The Messrs. Budget represent the very latest thought in scientific guessing. A scientific guess is a guess that is known to be such yet which is based as accurately as possible upon available facts and which under the supervision of intelligence becomes what is known as a forecast. After the guess has been made and recorded, the actual happenings are compared with the forecast, the divergences noted and the basis thus formed for bringing the next forecast more nearly in line with actual events. You have always to do a great deal of guessing in business, but if you are careful to check up your guesses, you get so after a while that you can place a lot of dependence on them.

In your Sales Budget, you set forth what you expect to sell during the year. You classify by product, you arrange by periods of time, usually months, and you determine from what units of your organization you are going to secure these sales. The Sales Budget then becomes the quota of your Sales Department and also the basis upon which you work up your Production Budget. The Production Budget is the manufacturing or purchasing program which provides the raw material for filling the orders called for by your Sales Budget. With these first two out of the way, the Financial Budget is easy| The Sales Budget tells you what you are going to sell and when, so that you can estimate what your sales revenue will be and when you will bank it. You know from your Production Budget what you have to make or buy; what it will cost; and when you will have to pay for it.—Ontario's Cornor Cards.

Credit Men Plan to Save $400,000,000

"The Business Service Committee of the National Association of Credit Men believe that the bad debt loss of the country, which in 1921 was about $800,000,000—30 per cent greater than the entire fire losses of 1921—can be cut in half by the practice of the principles of Business Service on the part of credit men.

"The credit man is particularly fitted and qualified by his training and experience to detect weak spots in his customers' methods and uses the genius of his organization for the purpose of assisting his customer before it is necessary for him to make public confession of his inability to meet his obligations.

"Business Service is best described as a 'heart interest in customers beyond and in addition to the exchange of dollars for merchandise whereby through advice and counsel in matters of business administration the customer is built up in whatever department he may be weak until he is made whole and successful.'

"This places a very heavy responsibility upon the credit office, that of teaching customers what constitutes the cost of doing business, the right way to figure profits, how to conduct a credit department, to make collections effectively, to eliminate waste, the importance of sound accounting methods, how to plan, produce, price and supervise their businesses—to do this not after they are in the clutches of the law, but long before, so as to prevent their ever failing at all.

"Credit men will have time to practice business service by just substituting all the hours and days now spent in attending meetings of creditors, studying extensions and adjustment propositions; preparing cases for counsel and assisting generally in bringing fraudulent debtors to justice."—H. Uehlinger, assistant treasurer, Hila Varnish Corporation, Brooklyn, addressing the convention of the National Association of Credit Men.

THE FOUNDATION MUST BE RIGHT

THE EFFORTS of a lifetime spent in perfecting a product may be lost in a few weeks by an indiscreet "saving" on raw material.

¶ One bad batch, widely distributed, may mean a setback of years, and even a slight lack of uniformity will militate against the success of any product.

¶ The raw materials are the foundation stones, and they must be right—otherwise uniformity is impossible.

¶ VANILLIN is the very corner-stone of your Extract or Confection. You, therefore, cannot afford to be indifferent about the quality of this important flavor.

¶ VANILLIN-Monsanto is right—always right—for the purity standard (higher than that required by the United States Pharmacopoeia) adopted by us years ago, is rigidly maintained.

¶ Build with pure white VANILLIN-Monsanto and your product will stand on a firm foundation.

CHEMICALS OF QUALITY
Monsanto
ST. LOUIS, U.S.A.

Monsanto Chemical Works
ST. LOUIS, U.S.A.

Manufacturers of

VANILLIN-Monsanto (the pure white Vanillin)
and
COUMARIN-Monsanto (the original American Coumarin)

Stocks are carried in St. Louis, New York, Chicago, Minneapolis and San Francisco

Are Your Packages Well Wrapped?

Proper Wrapping Protects Your Product Against Dirt, Moisture and Insects

OUR MACHINES WILL WRAP IN

PRINTED PAPER WRAPPERS
PRINTED FOIL WRAPPERS
WAXED PAPER
GLASSINE PAPER

Capacity up to 140 per minute

CAREFUL WRAPPING IS THE BEST ECONOMY

Send us a sample of your product. We will return it, wrapped as by machine, and gladly furnish you with full information on the equipment needed for your work.

American Machine & Foundry Co.
5520 Second Avenue
BROOKLYN, N. Y.
Attention Wrapping Machine Department

Work—A Song of Triumph

Work!
Thank God for the might of it,
The ardor, the urge, the delight of it—
Work that springs from the heart's desire,
Setting the brain and the soul on fire—
Oh, what is so good as the heat of it,
And what is so glad as the beat of it,
And what is so kind as the stern command,
Challenging brain and heart and hand!

Work!
Thank God for the pride of it,
For the beautiful, conquering tide of it,
Sweeping the life in its furious flood,
Thrilling the arteries, cleansing the blood,
Mastering stupor and dull despair,
Moving the dreamer to do and dare.
Oh, what is so good as the urge of it,
And what is so glad as the surge of it,
And what is so strong as the summons deep,
Rousing the torpid soul from sleep?

Work!
Thank God for the swing of it,
For the clamoring, hammering ring of it,
Passion of labor daily hurled
On the mighty anvils of the world.
Oh, what is so fierce as the flame of it,
And what is so huge as the aim of it?
Thundering on through dearth and doubt,
Calling the plan of the Maker out,
Work the Titan; Work the friend,
Shaping the earth to a glorious end,
Draining the swamps and blasting the hills,
Doing whatever the Spirit wills—
Rending a continent apart,
To answer the dream of the Master heart.
Thank God for a world where none may shirk—
Thank God for the splendor of work!

—*Angela Morgan.*

Success Maxims of Charles E. Byrne

Make your own job.

Work for a business as if it were your own.

You can't hold back a man who makes himself valuable to his employer.

Better work means more orders; more orders mean more work.

Assume all the responsibility you can shoulder.

Men who will not help themselves will not help your business.

Fairness, service, courtesy and integrity are the four vital factors in all businesses—large or small.

Sell the Buyer Your Institution—Then He Stays Sold

An eastern shoe salesman declares that his success is due to the fact that he is not so much interested in selling an order for three or four styles of shoes, but that he is interested in selling the buyer on the organization he represents—and that he will spend a week if necessary to do it. When he has sold his organization to the customer he has sold him the line.

This salesman feels that the real objective of the successful salesman of the future will be to sell the buyer on the organization and the line—not on three or four items. In this way your orders remain sold, and you are assured of repeat orders on your future calls.

Dickson All Steel Candy Coolers or Slabs

have been on the market since 1910. They are used by prominent candy manufacturers throughout the entire country. All coolers are furnished with 2-inch pipe legs.

The following sizes are available for shipment:

No.	Size	Shipping Weight
1	36 x 60	700 lbs.
2	36 x 96	1,100 lbs.
3	36 x 120	1,500 lbs.
4	48 x 72	1,100 lbs.
5	48 x 96	1,600 lbs.

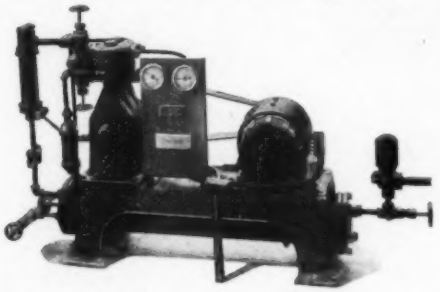
Write for prices.

All coolers manufactured under the Dickson patents are designed to insure proper water circulation resulting in RAPID, UNIFORM COOLING without the formation of vapor or steam pockets tending to produce hot spots.

The circulating water enters through a pipe connection centrally located in the bottom of the cooler, overflowing through an inlet dam, filling up the cooler with water and passing out through four outlet dams located one in each corner. These outlet dams are interconnected by a system of overflow pipes located within the cooler jacket. The circulating water is thus kept in intimate contact with the under surface of the top cooler plate.

Refrigerating Machinery

The ISEBOY illustrated below is a modern refrigerating machine, completely self-contained, ready for immediate connection and operation, up to date in every respect.



It is designed to use either ammonia or methyl chloride.

Methyl chloride is a low pressure refrigerant entirely harmless and inoffensive, especially suitable for locations where ammonia might be considered undesirable.

If you are considering the installation of cold storage equipment or air cooling of chocolate dipping rooms, let me have your complete requirements and I will make you a quotation on the equipment that will surprise you.

E. A. BURROWS

Refrigerating Engineer

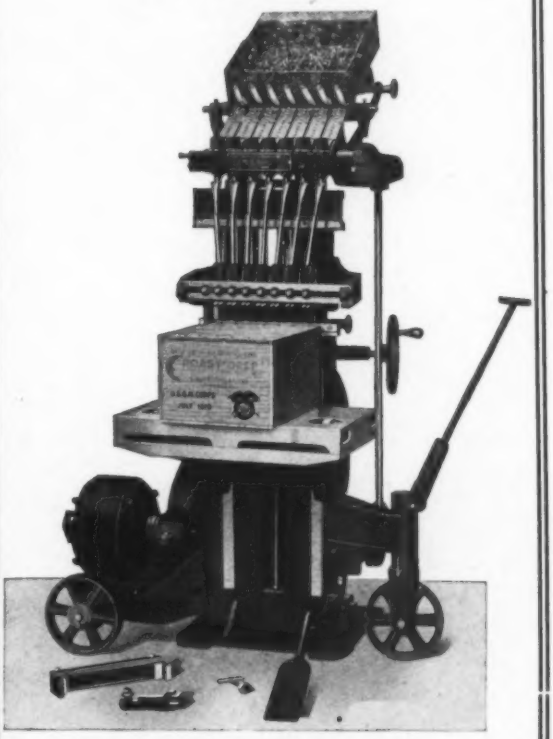
Security Building **CHICAGO**

A Gang of Seven

HAMMERS IN ONE

Saves You Money

IN NAILING BOXES



No. 7 Morgan Nailer, Motor Drive, Mounted Portable

Will drive from one to seven nails at each stroke.

Mounted portable, can be readily moved about the factory.

Machine Nailing Makes Better Boxes

Write Today For Information

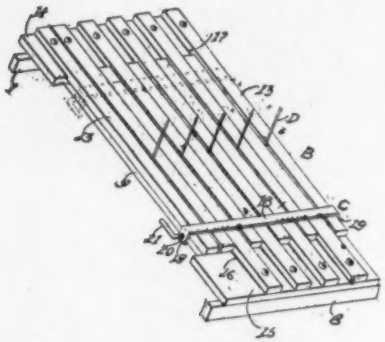
Morgan Machine Co.

Rochester, N. Y.

WHAT'S NEW?

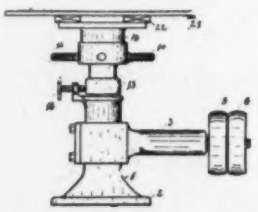
Patents

1,428,872. CANDY-DIPPING DEVICE. *Isaac Anderson*, Oakland, Calif. Filed April 22, 1921. Serial No. 463,524. 4 Claims. (Cl. 91—6.)



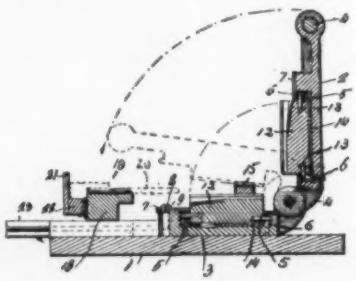
1. A device of the character described comprising a supporting frame for holding a plurality of sticks to be dipped, said frame including end sills and spaced connecting split bars having depressions for receiving therein the sticks to be dipped, a dipping frame including interlocking strips and adapted to be positioned on said supporting frame, and clamping means secured on said last mentioned frame whereby the sticks positioned in said supporting frame are withdrawn therefrom, for the purpose specified.

1,425,395. MACHINE FOR MOLDING CHOCOLATE AND SIMILAR PRODUCTS. *Louis Levy*, Paris, France. Filed Dec. 30, 1919. Serial No. 348,398. 5 Claims. (Cl. 259—91.)



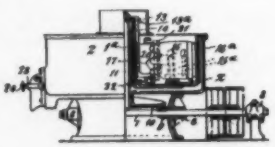
1. In a chocolate jolting machine, the combination of a frame, a shaft mounted in the frame, a disc mounted on the shaft, said disc having on its edge a plurality of cams, one of which terminates a greater distance from the center of the disc than the other of said cams, a table located above the frame, and a stem depending below the frame and terminating in the path of movement of the cams, whereby when the disc is rotated, a series of minor vertical jarring movements and a violent jarring movement will be imparted to the table in each revolution of the shaft.

1,425,998. CANDY MACHINE. *Carlos C. Morian*, Olean, N. Y. Filed March 31, 1920. Serial No. 370,198. 6 Claims. (Cl. 107—8.)



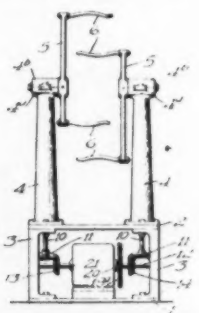
4. A machine of the character specified, comprising complemental frames provided with corresponding cutters and molding elements, and a back stop adapted to be secured between the frames and having clearance spaces for the cutters to prevent injury thereto.

1,426,118. MACHINE FOR MIXING CHOCOLATE OR OTHER MATERIAL. *Asbjorn Sonsthagen*, Leytonstone, England. Filed Jan. 24, 1922. Serial No. 531,436. 28 Claims. (Cl. 259—107.)



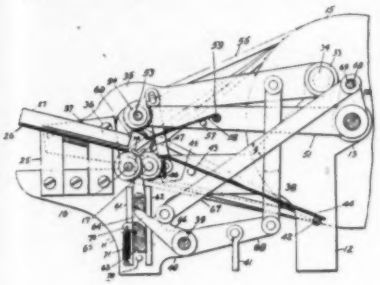
1. A machine for mixing chocolate or other material comprising a suitable pan, a body revolving in said pan, outer plates upon said body arranged adjacent the wall of the pan and designed to direct the material inwards towards the center thereof, so shaped and arranged as to impart thereto a turning over movement at different heights, other similar plates to direct the material outwards from the center of the pan, said plates being so shaped and arranged as to cause the material to be downwardly directed towards the bottom of said pan, and backwardly outwardly curved means at the bottom of said pan whereby the effective mixing is secured.

1,414,743. CANDY-PULLING MACHINE. *Raymond Lopez*, San Diego, Calif., assignor of one-half to Alfred Butts, San Diego, Calif. Filed May 10, 1920. Serial No. 380,079. 1 Claim. (Cl. 107—30.)



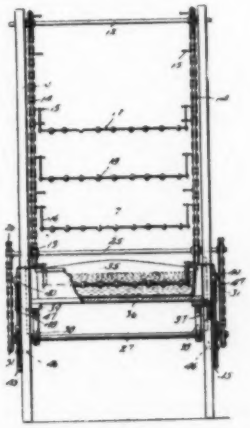
A candy machine, including a supporting casing, a single drive shaft revolubly mounted in said casing across the middle thereof, bevel gears secured to said shaft near each end, arms supported on said casing extending upwardly at an angle in opposite directions from each other and in alignment with said drive shaft, a shaft longitudinally journaled in each of said arms in angular position to said drive shaft, bevel gears on their lower ends engaging the bevel gears on said drive shaft, housings on the upper ends of said arms, a shaft revolubly mounted in horizontal position in each of said housings, bevel gears connecting said angular positioned shaft with said horizontal shaft and a double crank arm secured to the inner ends of each of said horizontal shafts, the one extending only one-half the distance as the other and positioned opposite to each other and candy-pulling arms secured to both extended ends of said arms so positioned and timed that one of the arms on one of said revoluble arms posses intermediate the other two arms with their revolution.

1,418,659. CANDY-WRAPPING MACHINE. *Frank Ben Lantery*, South Easton, Mass. Filed August 19, 1919. Serial No. 318,539. 2 Claims. (Cl. 93—5.)



1. In a wrapping machine, the combination of an inclined table, yielding guides mounted on each side of said table, a passageway between the guides and the table to permit the passage of a strip of paper therethrough, a cutting edge at one side of the table, and a pivotally mounted cutter co-operating with said cutting edge to sever the strip of paper passing between the guides and the table.

1,420,436. CONFECTION-COATING MACHINE. *Vincenzo Matranga*, New York, N. Y.; Vincenza Matranga administratrix of said Vincenzo Matranga, deceased. Filed April 27, 1920. Serial No. 377,032. 3 Claims. (Cl. 91—4.)



1. In a machine for coating confections, a suitable support, and endless conveyor traveling through said support, a plurality of confection-carrying racks carried by said conveyer, a coating-material receptacle, means operated from said conveyor for periodically elevating the coating-material receptacle, and means adapted for engagement with the confection-carrying racks for maintaining said racks submerged in the coating material in the receptacle when the latter is in elevated position.

Technical Books You Should Know About

THE MANUFACTURE OF CHOCOLATE, AND OTHER CACAO PREPARATIONS. *Paul Zipperer.* Third Edition, rearranged, thoroughly revised, and largely rewritten. Edited by Phil. Herm. Schaeffer. 132 illustrations, 21 tables, 3 plates. 7 x 10, leather. 345 pp. New York, 1915. $7.50

Contents: The Cocoa Tree; The Manufacture of Cacao Preparations; Ingredients Used in the Manufacture of Chocolate; Examination and Analysis of Cacao Preparations; Installation of a Chocolate and Cacao Powder Factory.

COCOA AND CHOCOLATE. Their chemistry and manufacture. *R. Whymper.* 19 illustrations, 3 plates. 7¼ x 10¼, cloth. 330 pp. Philadelphia, 1921. $10.00

Contents: History, Botany and Agriculture of Cacao; Manufacture of Chocolates and Cocoa Powders; Chemistry of Cacao; Survey of the Components of Cacao and Chocolate; Methods of Analysis.

FOOD ANALYSIS. *A. G. Woodman.* Typical Methods and the Interpretation of Results. 108 illustrations. 5¾ x 8¼, cloth. 520 pp. New York, 1915. $3.50

Contents: General Methods; Microscopical Examination of Foods; Food Colors and Preservatives; Milk and Cream; Edible Fats and Oils; Carbohydrate Foods; Cocoa and Chocolate; Spices, Cider Vinegar; Flavoring Extracts; Alcoholic Foods.

HANDBOOK OF SUGAR ANALYSIS. *C. A. Browne.* A practical and descriptive treatise for use in research, technical and control laboratories. 200 illustrations, 25 tables. 6¾ x 9½, cloth. 980 pp. New York, 1912. Net, $6.00

MANUAL FOR THE ESSENCE INDUSTRY. *Erich Walter.* Illustrated. 6¼ x 9¼, cloth. 431 pp. New York, 1916. Net, $4.00

Contents: The Taste, and the Transfer of Flavor to Foods and Beverages; The Raw Materials Yielding the Different Tastes; Laboratory Practice; Non-Alcoholic Beverages; The Manufacture of Liquors, Licqueurs, Spirits and Other Alcoholic Beverages; Confectionery, Bakery and Culinary Essences; Coloring Matters for Foods and Drinks; Cosmetic Essences.

COMMON-SENSE CANDY TEACHER. *Jacob Friedman.* With a supplement by Wm. H. Kennedy. *Second Edition.* 6 x 8¾, cloth. 391 pp. Chicago, 1911. Net, $10.00

Contents: Common-Sense Talks; Talks on Material; Formulas; Cream Work; Gum Work; Ice Cream, Ices, Sherberts, etc.; Sensible Suggestions.

THE MANUFACTURE OF PRESERVED FOODS AND SWEETMEATS. *A. Hausner.* Translated from the German of the third enlarged edition. *Second Edition.* 28 illustrations. 5¼ x 7½, cloth. 246 pp. London, 1912. $3.50

A handbook of all the processes for the preservation of flesh, fruit and vegetables, and for the preparation of dried fruit, dried vegetables, marmalades, fruit-syrups and fermented beverages, and of all kinds of candies, candied fruits, sweetmeats, rocks, drops, dragees, pralines, etc.

FOOD INSPECTION AND ANALYSIS. *Albert E. Leach.* For the use of public analysts, health officers, sanitary chemists, and food economists. *Fourth Edition*, revised and enlarged by Andrew L. Winton. 278 illustrations. 6½ x 10, cloth. 1109 pp. New York, 1920. $8.50

PURE FOODS. THEIR ADULTERATION, NUTRITIVE VALUE, AND COST. *John C. Olsen.* 30 illustrations. 5 x 7½, cloth. 215 pp. New York, 1911. Net, $1.00

Contents: What is Food?; Pure Food; Standard Rations and the Cost of Food; Milk Bacteria in Milk; Fats and Oils; Butter and its Substitutes; Meats; Carbohydrates; Candies; Food Colors; Preservation of Foods; Fruits, Jams, Jellies; French and Canned Vegetables; Breads, Cereals; Spices, Flavoring Extracts.

Book Sales Department

The Candy Manufacturer

Stock Exchange Building **CHICAGO**

HOME OF

THE

WARFIELD CHOCOLATE CO.

536-552 West 22nd Street

CHICAGO

Specializing in

Quality Coatings

FOR ALL PURPOSES

AFFILIATED WITH

THOMSON & TAYLOR CO.

Imported Nut Situation

Jordan Almonds: The new crop of Jordans runs to small fruits. When the trees are heavily loaded it generally indicates that there will be a large yield of two and three crown goods and a correspondingly small yield of the large Jordans. This is the condition this year according to our best advices, and it is noticeable that there has been practically little demand for two and three crown Jordans in this market. This, of course, means plentiful stocks at the source, which are not moving at present.

Valencia Almonds: There is a normal supply of Valencias abroad, but a concerted demand from this side has kept the shippers' stocks down to the floors. But, goods are plentiful in the country and will easily meet the demand. There are some large, handsome Valencias being shipped at this time, both four, five and six crowns. Sicily and Italy show large crops of almonds. So notwithstanding the additional duty which has been imposed, the market is rapidly working down to the prices existing before the new duty went into effect. In other words, the process of absorption of the additional duty has already been completed with Jordans and Valencias, and the whole list will soon be in line with the old tariff prices.

Pistache Nuts: The production of Salted Pistache Nuts, which has quite a large sale throughout the country, has been affected by conditions in the Near East. Extra selected goods must, therefore, command a higher figure. There will be some tendency on the part of unscrupulous shippers to send out inferior packs in the interests of profit, but the responsible packers will doubtless adhere to the standard which they have adopted and will work on a very short margin until such time as they can operate normally again.

Shelled Walnuts: There is a large crop of Walnuts available in the shell, but the nuts having fallen from the trees before maturity, the kernel is not as large and heavy as in former years. Peculiar weather conditions, whereby the fruit was subjected to extremes of heat and dry weather followed by a superabundance of rains, have withered the kernels so we will have a large proportion of what is known as shrivelled meats. Furthermore, the picking has been done under very unfavorable atmospheric conditions, the weather having been cool and rainy. On account of the nuts lying in the wet grass and moist grounds, it has resulted in a large percentage or arlequins (stained kernels) and it doubtful whether the kernels will show as well this year as

compared with previous years. Therefore, we have the apparent paradox of a large crop of nuts and yet a rather limited crop of meats.

Early in the season, when the nuts were on the trees, the indications were that there would be a large crop of Shelled Walnuts. But, in view of the facts as recited above, the market has advanced into a strong position.

The first vanguard of the new French Walnuts has already arrived. The meats are of good color, but somewhat delicate.

Anticipate Your Wants and Order Ahead

Only a miracle can prevent a car shortage during the months to come. This condition is even now acute in some sections. It will become more serious during the winter.

There will in any probability be embargoes on certain commodities, and preferential shipping instructions for food and fuel.

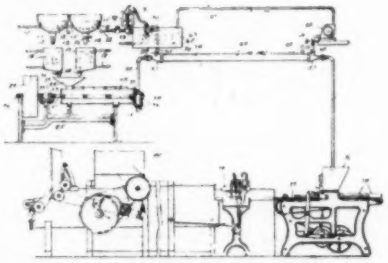
A legitimate safeguard against closing down for lack of materials is to order ahead now—carrying a sufficient stock with which to continue operations through a period of transportation difficulties.

In view of the circumstances involved, you should prepare yourself. —*N. C. A. Traffic Circular.*

Patents

(*Continued from page 53*)

1,432,918. CONTINUOUS CONFECTIONERY-MAKING SYSTEM. *Dale G. Steely,* Arlington, Mass. Filed June 7, 1919. Serial No. 302,542. 17 Claims. (Cl. 107—4.)



1. A continuous confectionery-making system comprising, in combination, syrup-feeding means for a beater, a beater arranged to discharge a continuous stream of fondant, a depositor for the fondant distantly located with respect to said beater, and means to conduct the continuous stream of fondant from said beater to said distant depositor.

9. In a confectionery-making system, a fondant beater comprising a cylinder, an end plate therefor and a fondant pump carried thereby.

"Remember, Everybody Likes Candy"

Even YOUR chocolates will be improved if you use

Haehnlen's Hardener

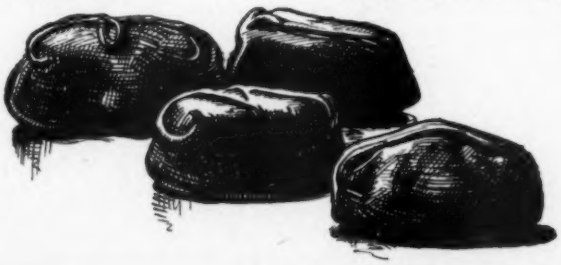
(Purely Vegetable)

Haehnlen's Hardener is never shipped until it has first been properly **"aged"** and **"seasoned."** In this condition only can you attain perfect uniformity and smoothness in your coatings, as well as the assurance that the goods will be vastly improved in appearance, and "lasting quality," whether High Grade Hand Dipped, or the cheaper and Machine Dipped Chocolates, as well as the Coated Penny Goods.—COMPARE THE GOODS!

Quotations and Particulars on Request.

Manufactured by
L. S. HAEHNLEN
3817 Wyoming Street
ST. LOUIS, MO.

Sole Distributors for United States, Canada and Europe
HAUG & CO., INC.
295 Broadway, New York City, N.Y.



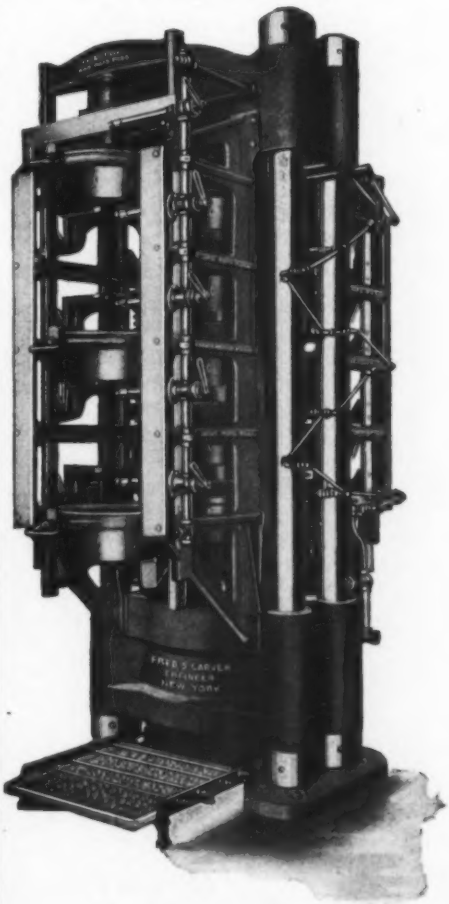
PRESSING COCOA BUTTER

IS A

PROFITABLE OPERATION

WITH

CARVER PRESSES



(Patented and Patents Pending)

FOR
FURTHER INFORMATION
ADDRESS

FRED S. CARVER

ENGINEER

8 West 40th Street NEW YORK

THE SUPPLY MANUFACTURERS' PAGE

The confectionery supply field is so closely and vitally interested in the healthy development of the manufacturing branch of the confectionery industry that this space is provided for constructive editorials and expressions from supply manufacturers. The identity of the writer is omitted for obvious reasons.—*Editor.*

The Value of Machinery to the Candy Industry

by Samuel R. Murphy

IN this century of remarkable mechanical achievement, there is no industry which has benefited in greater measure by the use of machinery than the manufacture of candy. Trace the rapid growth of the candy business in the last thirty years and you have a very interesting record of the advent of modern candy-making machinery for efficient volume production.

American ingenuity has put the manufacture of candy among the first rank of American industries, huge as they are. With the aid of efficient machinery, small plants with local distribution have expanded year after year until they have achieved national distribution in an undreamed of volume.

Saving Profits With Modern Machinery

But not alone for the purpose of large quantity production has machinery proved its worth. In fact, it has proved of greatest value in small and medium size plants in the arresting of high production costs and in offsetting the scarcity of eligible labor. We sometimes hear a man say, "Well, I need that machine and would like to purchase it, but I can't afford to." The answer to this is always, "You can't afford *not* to." This man may be paying out twice the cost of this machine annually for labor which the machine would replace. Many small factories are located in more or less remote places where the available supply of labor is not only very limited but very unstable as well. Machinery will come to the aid of these plants, not only by reducing their labor requirements to a minimum, but by getting out a given production of candy at a decreased cost, and the money saved goes into profits, in many cases marking the difference between success and failure.

There is a machine covering practically every operation in the manufacture of candy today and the machine will do it quicker and cleaner and the finished piece will be, in most ?osts, superior to that produced by hand meth-)ds. To the consumer, the most important feature of machine-made candy is the confidence they have in its cleanliness, it being assumed of course, that the manufacturer has used wholesome ingredients to start with. The public has become mightily educated along these lines in the last few years. In former times, it was only necessary for the newcomer to our shores to serve a short apprenticeship in a candy factory and then open up a back-kitchen candy store. He usually taught what little he knew of the business (and in most cases, it was indeed little) to several relatives more recently arrived and in a few months they were going strong—and uncensored. This type of shop did more than a little harm to the candy business, as those who patronized it did not develop a substantial appetite for candy, but rather, in many instances, a dangerous prejudice.

But the back-kitchen shop has seen its heydey, as the great American public has grown more cautious about what they put in their stomachs. Not that their desire for candy has decreased, not by a jug-full ($500,000,000.00 is the estimated volume for 1922), but they are going to buy candy they know something about.

Beware of Production at the Expense of Sanitation

The manufacturer, large or small, who invests his time and money in the latest sanitary methods of production and in the most wholesome ingredients obtainable is going to have his investment returned many fold. The American public is highly appreciative. The quality a manufacturer puts into his candy is the best investment he could possibly make.

The depth of the purchasing power of this vast nation has never been sounded and is practically illimitable. For the manufacturer who makes an ally of modern machinery and who is possessed of ideals regarding the character of his product, there is a boundless market in the American public—the greatest purchasing power the world has ever known.

DO YOU KNOW

who manufactures a small electrically operated marshmallow machine that will make a batch of 7½ pounds and deliver the marshmallows in cubes? One of the readers of T. C. M. wants to get in touch with the manufacturer. We will pass this information on to our subscriber.

"The world bestows its big prizes, both in money and honors, for but one thing. Initiative: doing the right thing without being told. But next to doing the thing without being told to do it when you are told once."—*Elbert Hubbard.*

CANS

—FOR—

Hard Candy and Chocolates

PLAIN TIN and DECORATED

The Usual "SterNational" Quality and Service, which means THE BEST

PRICES ATTRACTIVE, TOO
Ask Us

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Marcone & Company, Inc.
98 Front St., New York City
BROKERS IN
Cocoa Beans
and
Cocoa Butter
Phones: Bowling Green 2281, 2282, 2283

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The Candy Manufacturer
and lend your co-operation in making this magazine of vital interest to every department of a candy and chocolate factory.
$3.00 the Year
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Stock Exchange Bldg., CHICAGO

The Wrong Sugar Can Kill Your Candy Business

Are you sure you know the right kind of sugar to use for each kind of candy?

If you are not, you will be interested to know that we maintain a Research Department on which we spend a great deal of money annually—*to do your experimenting for you.*

We know exactly what sugar to use for each kind of candy to get the best results, and if you will write us, we will not only tell you that, but we will give you the scientific reasons for it.

The Franklin Sugar Refining Company

PHILADELPHIA, PA.

"A Franklin Cane Sugar for every use"

Something Better in Colors and Flavors

"Atlas Brand" Colors and Flavors offer to the Confectioner the strongest and most brilliant colors and the most delicate and delightful flavors. In fact their unusually high quality has made them the standard for many of the country's leading candy manufacturers.

"Atlas Brand" Colors (all shades)

Certified Combination Colors
Certified Primary Colors
Certified Paste Colors
Vegetable Dry Colors
Vegetable Paste Colors
Atlas Carmine No. 40

"Atlas Brand" Flavors and Extracts

Genuine True Fruit Flavors
Imitation Fruit Flavors
Conc. Imitation Fruit Flavors
Pure Vanilla Extracts
Imitation Vanilla Flavors
Maple Flavors

"First producers of Certified Colors"

H. KOHNSTAMM & CO., Inc.

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83-93 Park Place

Established 1851

CHICAGO
11-13 E. Illinois Street

A trial quantity of "Atlas Brand" Colors or Flavors will be gladly sent on request with the understanding they must satisfy you, otherwise they may be returned at our expense.

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AMERICAN MAIZE PRODUCTS COMPANY
CRYSTAL CORN SYRUP
AMAIZO
TRADE MARK
43
CHICAGO

AMAIZO Confectioners' Thin Boiling and Moulding Starches

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BENDIX PAPER CO.

Paper Specialties for Candy and Perfume Manufacturers

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Art Lithographers *and*
Printers since 1874
Distinctive Labels and Seals

Watoline Pads

Made in any size to fit your boxes, with or without special center embossing of trademark, cut with straight or fancy scalloped edge.

Ask us for quotations on your requirements.

"Everything for the Candy Box except the candy"

A Mixer to Be Reckoned With in Getting Production of Quality Candies

Every Factory Manager
and
Candy Superintendent
should have our catalog
Write for it

A Few Prominent Users

Huyler's	New York City
Loft's, Inc.	New York City
Barna Confectionery	New York City
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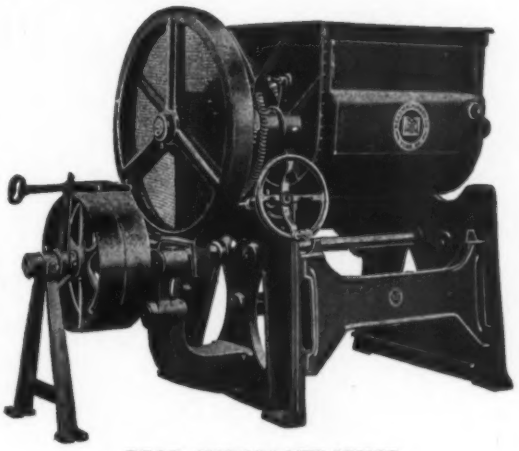
York Chocolate Co.	York, Pa.

READ MACHINERY CO.
YORK, PA.



READ CHOCOLATE MIXER
(With Steam Jacket)

BAKER SYSTEM REFRIGERATION

NOT to investigate the money saving possibilities of the Baker Ice Machine is an absolute disregard of those progressive principles which increase both business and profits.

Write today for information.

Baker Ice Machine Co., Inc.
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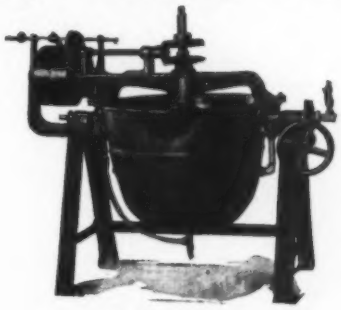
Bucyrus Copper Kettles

have given dependable service since 1874. Their design assures—

Safety—Durability—Economy



Steam Jacketed Tilting Kettle

Our Prices will interest you. Get them!

The Bucyrus Copper Kettle Works Co.
Bucyrus, Ohio

Also Manufacturers of
MIXING KETTLES, COPPER CANDY PANS
and BUCYRUS REVOLVING PANS—
the last word in production machines.

And when the box is opened—

What kind of an impression is made on the purchaser of *your* box of candy, when it is opened?

Is it pleasing to the eye, and does it express high quality and individuality?

Such a profitable impression can be obtained by the use of but three or four

Conley Foil Bon Bon Cups

in each of your candy boxes. Our cups are furnished plain, colored, and stamped with your name. They brighten up the display of your candy and add to its salability.

Write for samples and prices.

THE CONLEY FOIL COMPANY

511 to 541 West 25th Street **NEW YORK, N. Y.**

The Upressit Cap

The Convenient Re-Seal

cap that makes the candy jar worth saving when empty.

Mothers look for Upressit—buy the contents for the children, the container for themselves.

Consequently Upressit is today making sales for scores of candy manufacturers.

It will make sales for you, too. A test will prove it.

Write today for samples and tell us your requirements.

Upressit Products Corporation

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CONCENTRATED VANILLA FLAVOR

STRENGTH, QUALITY AND PURITY
THE SAME AS ALWAYS

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ADD THE ATTRACTIVE TOUCH OF COLORS TO YOUR PACKAGE GOODS WITH

White Stokes

MALLO COVERING

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Golden Cream - Rose Pink
Lemon Yellow - Orange

Used like chocolate—*eats* like chocolate—*keeps* like chocolate.

Packed ten—10-lb. cakes in case.

Centers coated in Mallo Covering provide the fancy box packer with just the desired color to set off the package without sacrifice to eating quality or danger of deterioration.

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The True-Worth factory garment plan is speeding up production for hundreds of factories throughout this country and Canada.

Appeals to the Girls

It does not cost you a cent to uniform your factory girls in distinctive, practical and sanitary factory garments. The girls like the idea and take more pleasure in their work. Let us design a uniform for your factory—or if you have your own ideas, tell us and we'll make up a sample garment for you free. Our True-Worth plan will interest you from an efficiency, as well as economical standpoint. Write for further information.

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Uniform Garments

are made from an excellent quality material. They are durable and guaranteed—truly worth your consideration.

True-Worth-Garment-Co

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A FALL SPECIALTY

BLACK WALNUT

Freshen up your mixtures of hard candies or filled goods with something seasonable.

A few pieces flavored with our Black Walnut will prove a delightful addition.

Our Black Walnut is appetizingly different. After the first taste, grown-ups as well as the children will search the jar for it.

It makes great taffy, too—with or without nut meats!

A working sample of this unusual flavor will be sent without charge to manufacturers.

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CREMORA "A" (Dry Whole Milk)

has, by uniform quality and sterling merit, won its way into practically all of the large Milk Chocolate plants in this country.

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contains 53% pure butter fat, makes delicious Caramels, Fudge and Ice Cream.

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Ask the man in the fruit store

Through the use of our Quality Flavor-Concentrate, cXc Grapefruit (Pomelo), in your candy, you can capitalize this increasing popularity.

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Working sample is free to rated firms

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Send us your name and address on a postal and we will send you our "free book." This book has told hundreds "how and where" to cut costs.

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Every machine guaranteed to fully meet all claims made.

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Having reached the acme of *quality*, we began exercising great care as to the *uniformity* of our product.

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Send for our Illustrated Catalog No. 3 showing the large variety of metal molds, which we manufacture, suitable for all occasions. Or ask your jobber. Many of the confectionery supply houses throughout the United States carry a stock of our molds.

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Clinton Corn Syrup makes better and more uniform candy.

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Are the Standards of the Trade for Confectioners' Use

Sweetened and unsweetened; light, medium and dark, whatever the difference of color or flavor, all are *absolutely pure*, smooth and uniform to work.

The taste and appearance of confections depend largely upon the coatings.

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Recognized as the STANDARD of QUALITY by the Leading Confectioners

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Duché's Pure Food Gelatine

Not the Cheapest—Not the Dearest—BUT THE BEST!

Purity, Strength and Uniformity Guaranteed

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SHELLED NUTS
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Cacao Products, Sugars, Milk, Fruits and Raw Materials
Development of New Products and Processes. Factory Control. Research on Problems of Spoilage
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Confectioners' Orange Paste

A true-fruit product made from the outer portion of the peel of fresh, ripe oranges. Ideal for flavoring cream centers and other fine confectionery.

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Most reliable gelatine for Confectioners—

WHITTEN'S GELATINES

are standard

— Established 1879 —

Strength, purity and uniformity guaranteed

Manufactured by

J. O. WHITTEN CO.

Winchester, Mass.

Woolworth Building, New York City

20 East Jackson Blvd., Chicago

Highest Grade Shelled Nuts

1885—IMPORTERS—1922

SPENCER IMPORTING CO.

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A Real Treat—Marshmallows Made With UCOPCO

You will soon be testing Gelatine to determine the product best suited for use in your marshmallow during the coming year.

Then test a brand of Gelatine that is used by many of the largest and most discriminating buyers in the candy field—that's UCOPCO.

It Will Pay You to Investigate

Address any of the offices listed below for samples and let them tell you why it will be to your advantage to use UCOPCO exclusively.

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Home Offices
4200 S. Marshfield Avenue, Chicago

Branches
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"UCOPCO Comes Sealed in Red Drums"

Ucopco Pure Food Gelatine

CLASSIFIED ADVERTISING

Help Wanted, Situations Wanted, Salesmen Wanted, Machinery and Equipment Wanted and For Sale, Etc., Etc.

Remember—this is the manufacturers' own magazine devoted to the interests of the executive, the purchasing and production departments of a candy and chocolate factory. Therefore this is the most logical medium through which to make known your wants regarding the sale or purchase of machinery and equipment, help wanted, or positions wanted, etc. Closing date for this department, first of month.

MACHINERY FOR SALE

FOR SALE—BERGER WRAPPING machine (gum), Price inventor. Good condition and now working. Best of reasons for sale. A bargain if you can use a machine at a bargain. Will Carleton, Eureka Springs, Ark.

FOR SALE—ONE DE LA VERGNE latest type 75-ton refrigerating plant, including safety design compressor; consists of a horizontal double acting ammonia compressor 14½ in. dia. by 26-in. stroke, direct driven by a Corliss valve gear steam engine, 20 in. dia. by 26-in. stroke. Wm. H. Luden, Inc., Reading Pa.

FOR SALE—WE OFFER FOR SALE a second-hand, 15-inch belt Chocolate Enrober, made by the National Equipment Company; Enrober is in first-class condition. Address Loose-Wiles Biscuit Company, Minneapolis, Minn., for price.

FOR SALE—ONE CHAMPION BASket Dipping Machine. Complete with assorted baskets and in first class condition. Price reasonable. Eby-Loser Company, Aurora, Ill.

FOR SALE—TWO PRACTICALLY new, direct connected, Racine Barrel Beaters; best offer takes them. Hoefler's Centennial Choc's, Inc., Buffalo, N. Y.

FOR SALE—PACKAGE MACHINE CO. Wrapping Machine, Inserting Device, and Redd Sealing Machine, equipped for the regular 5c size popcorn package. All connected up to 5 H. P. motor ready to run. A wonderful buy for someone who knows something about this product. No competition in this territory. In fine daylight, 7,000 sq. ft. factory at reasonable rent and good lease. A good buy for a quick buyer. S. R. Mercer Mfg. Co., 2507 Western Ave., Seattle, Wash.

FOR SALE—COMPLETE FOUR-TON refrigerating plant. Horizontal steam engine; baling press; steam jacket copper kettles; marble slabs; egg beater, heating tables; blowers, Saxmayer Bundle Tyer; addressograph; starch boards, enrober boards, tanks, transmission; steam traps; crystal syrup cooker; sanding revolving pan; Ideal stencil machine; aluminum molds. Address Royal Candy Co., 1017 Clybourn St., Milwaukee, Wis.

FOR SALE—40 AND 60-GAL. NEW Dopp kettles; 30 to 200-gal. capacity copper jacketed kettles; Pfaudler 4 x 5 blue enamel tanks, jacketed; Pfaudler 5 x 7 blue enamel jacketed still. R. Gelb & Sons, 214 Livingston St., Newark, N. J.

MACHINERY FOR SALE—Cont.

FOR SALE—ONE CREAM COOLER and beater, made by Joseph Baker & Company; 1 After Dinner Mint Cutter. Patterson Candy Co., Ltd., Toronto, Canada.

FOR SALE—3 SPRINGFIELD CONtinuous Cookers, each guaranteed first class, cheap; 1 Simplex Steam Cooker; 2 Simplex Gas Cookers with extra kettles. Special Machine Co., 39 Cortland St., New York, N. Y.

MACHINERY WANTED

WANTED—SECOND HAND COCOA Butter Presses, Carver make preferred. Address K265, c/o The Candy Manufacturer.

WANTED—USED COCOA ROASTERS, Crackers and Fanners, Mills' or Disc Refiners and Cocoa Pulverizing Equipment. Address K266, c/o The Candy Manufacturer.

WANTED—A JOHN McLEAN PEAnut Sheller. What have you? A. Phillipp, 5023 Cote Brilliante Ave., St. Louis, Mo.

POSITION WANTED

ASS'T SUPT. OF A LARGE CHOCOlate plant seeks an opening where a practical knowledge of the business in general and conscientious work would be appreciated. Please state what you have to offer. Address K264, c/o The Candy Manufacturer.

HELP WANTED

WANTED—COMPETENT, EXPERIenced candy factory superintendent for engagement in Ohio making bar goods, box and pail specialties. Must be exceptionally capable of getting heavy production from employes. Give full details covering all previous engagements and confidentially present employment; also references. Address K261, c/o The Candy Manufacturer.

A BOSTON CONCERN MANUFACTURing confectionery requires the services of a high grade foreman on cream center and M. M. work; ability to develop new ideas and supervise production of quality goods, together with a knowledge of handling men and experience in up to date methods are absolutely necessary to quality for this position. Best of references required. Address J256, c/o The Candy Manufacturer.

HELP WANTED—Cont.

WANTED—EXPERIENCED MANager for candy factory established 25 years in Middle West—selling in every state with profit. Right man can organize own company to take over business; must be able to invest some money to show confidence in self. Owner will take stock in new company for present business—will rent buildings, equipment with option to buy on terms. Big opportunity to right man with some money, but more essential must be character, experience, confidence. Give your full propositon and references in first letter, because I desire to take first vacation this winter. Address K262, c/o The Candy Manufacturer.

FOR SALE

FOR SALE—COMPLETE CANDY manufacturing plant for quick sale, now operating. Privilege will be given buyer to take over orders on file, stock on hand and continue to operate under same name. Plant is fully equipped with modern machinery, located in one of the best candy towns in the East and has a capacity at present of $20,000.00 to $25,000.00 monthly. Concern is well and favorably known with the trade and has always enjoyed good business. Full particulars gladly furnished upon application. Address K263, c/o The Candy Manufacturer.

SALESMEN WANTED

SALESMAN WANTED—FOR JANUary 1st next we will need several experienced candy salesmen with the jobbing trade. State fully in first letter your experience, your references, salary now earning. We solicit jobbers only. Do not answer unless you are a man with ripe knowledge of and experience with this trade. The Runkle Company, Kenton, Ohio.

SALESMAN WANTED—CHICAGO manufacturer of high grade line of box candies is now open for applications of experienced salesmen calling upon wholesale confectioners in eastern and southern states. Commission basis only. Address K260, c/o The Candy Manufacturer.

SPECIALTY SALESMEN WANTED for each eastern and southern state to sell our specialties to the jobbing trade, new specials each month that sell fast. Commission only. Do not answer unless you have reference and can produce. The Can D Ola Company, 611-613 Callowhill St., Philadelphia, Pa.

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This is the time to start writing up your article for the

Superintendent's Roundtable

which will be a feature of the

Second Annual

Superintendent's Number

Issue of January, 1923

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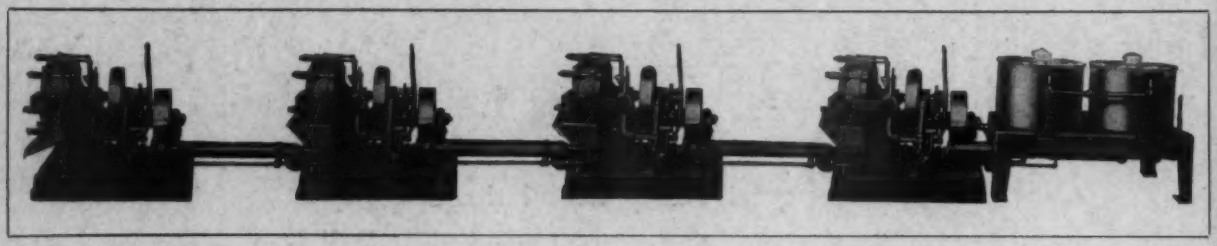

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